Peak Flow Meters: Digital and Mechanical

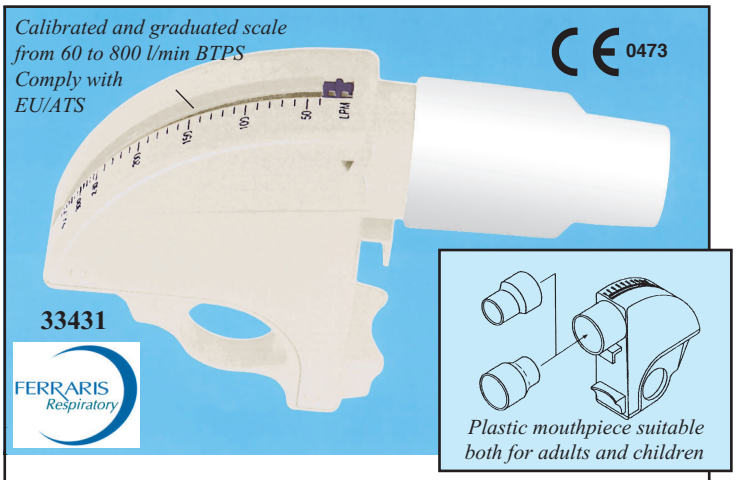
Approved by Italian Pneumology Foundation

Code 33435 PIKO-1 - digital peak flow meter
Code 33436 PC DOWNLOAD DEVICE + SOFTWARE
Code 33437 MOUTHPIECES

The new PiKo-1 is one of the world's most sophisticated tool for managing asthma at home. In addition to measuring PEF, test quality alerts and storage of tests, PiKo-1 also measures FEV_1. Many asthma doctors worldwide consider FEV_1 a more realiable predictor of impending symptomatic airway obstruction. Low cost: price compares to mechanical peak flow meters.

Technical Specification

PEF:	Range 15 - 999 L/min (1 L/min resolution)
FEV_1:	Range 0.15 - 9.99 Litre(0.01 Litre resolution)
Accuracy:	PEF: ±5% or 20 L/min (whichever is greater)
	FEV_1: ±3% or 0.1 Litre (whichever is greater)
Sensor:	Pressure/flow sensor technology (patented)
Non-volatile Memory:	96 tests contain: PEF, FEV_1, Colour zone,
	Quality factor, Time/date stamp (15 min resolution)
Reference values:	User settable for PEF or FEV_1
Quality factor:	Warning & indicator for cough or abnormal blow
Communication:	Bi-directional IR port (RS232 format)
Dimensions-Weight:	75x35x20 mm - 35 g


Calibrated and graduated scale from 60 to 800 l/min BTPS
Comply with EU/ATS
CE 0473
33431
FERRARIS Respiratory
Plastic mouthpiece suitable both for adults and children

Code 33431 POCKET PEAK - standard 60-800 l/min - cream
Code 33433 POCKET PEAK - low 50-400 l/min - yellow

The Pocketpeak Peak Flow Meter is designed to provide simple and reliable home asthma management. Lightweight and easy to use, it provides accurate and reliable measurements time and time again. It is easy to clean and features a universal mouthpiece.
The EU/ATS Scale Pocket peaks will not only comply with the new European Standards but also with ATS (American Thoracic Society) Standards. Standards range pocket peak will cover 60-800 litres/min, low range will cover 50/400 litres/min. Package includes multilingual directions for use and peak flow diary, all packed in a cardboard box. Made in UK. Size 86 x 81 x 30 mm. Weight 45 g. Standards: EN 13826:2003

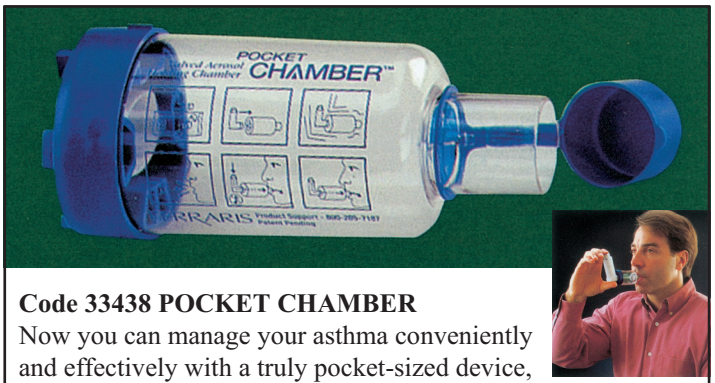
Code 33432 UNIVERSAL MOUTHPIECES - re-usable
In plastic, sterilizable, suitable both for adults and children.
Code 33410 DISPOSABLE MOUTHPIECES - box of 500

Lung exercise device

Code 33445 TRI-BALL® - respiratory exerciser

The respiratory-exerciser Tri-Ball® helps the patient to recover the normal respiration after a chest or abdominal surgery. Visible incorporated label allows fast identification of the patient who owns the set.
Economical: as it is a small size product, it allows, without altering its function, to save maintenance and storage costs.
Hygienic: Differing from others respiratory exercisers, Tri-ball® incorporates a container to place the mouthpiece after being washed. This container has a lower aperture to drain the spared cleaning water drops. In this way we get a total protection of the mouthpiece after using the exerciser.
User manual in English, French, German, Italian, Spanish.

Aerosol Holding Chamber



Code 33438 POCKET CHAMBER

Now you can manage your asthma conveniently and effectively with a truly pocket-sized device, proven as effective as MDI chambers nearly twice its size. The Pocket Chamber delivers a high concentration of respirable aerosol, to help provide relief from asthma symptoms while capturing large particles and reducing unwanted side-effects.
- Whistle alerts patients if inspiratory rate is exceeded
- Effective, affordable alternative to expensive aerosol delivery
- Flexible port accepts virtually any MDI's mouthpiece

Technical specification

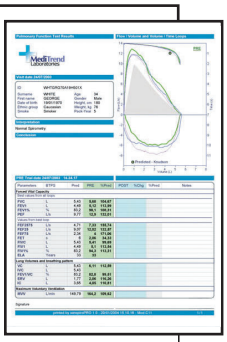
Size: 108 x 47.5 mm	Volume: 110 ml
Mouthpiece: 22mm OD	Weight: 33 grams
Materials: All Latex Free Silicone	
User Manual: in English, Spanish, French, German, Italian, Dutch, Portuguese, Turkish and Greek.	
Warranty: One year	Made in UK

SPIROBANK II - Portable spirometer with SpO_2 Option

Code 33511 SPIROBANK II + SOFTWARE
Spirometer with 6,000 spirometry test memory capacity, with possibility to insert patient name, Bluetooth® connection to HP printer
- Internal temperature sensor for automatic BTPS conversion
- High resolution/high visibility graphic display
- Patient identification by name or ID code
- Automatically records the best 3 trials
- USB cable, carryng case and software included

Code 33513 SPIROBANK II + SOFTWARE + OXYMETER same as above with Oximeter with 1,000 hours (40 days) oximetry recording, for measuring and saving into PC of:
- Short or long term (overnight) SpO_2 and Pulse Rate measurements
- ODI, NOD, T90%, T89%; T88% and T87% calculation
- Sleep apnea detection with desaturation events recording
- Walk Test (6MWT) with SpO_2 and Pulse Rate analysis
- 24 hours holter test
- SpO_2 range: 0-99%, Pulse Rate range: 30-254 BPM

Software functions:
- On-line PC connection with icon interface
- Real time Flow/Volume and Volume/time curves
- Bronchial challenge with FEV1 dose-response
- Paediatric incentive animations
- Integration with EPR systems
- Lung age estimation
- Data and graphs export also via E-mail



Weight 180 g
Size 60x145x30 mm

Technical specifications

Measured parameters:
FVC, FEV1, FEV1/FVC%, FEV6, FEV1/FEV6%, PEF, FEF25%, FEF50%, FEF75%, FEF25-75%, FET, Vext, FIVC, FIV1, FIV1/FIVC%, PIF, *FVC, *FEV1, *PEF, VC, IVC, IC, ERV, FEV1/VC%, VT, VE, Rf, ti, te, ti/t-tot, VT/ti, MVV (* Best value}
No calibration required
PRE-POST bronchodilator comparison
Spirometry interpretation with test quality assurance

Flow sensor: bi-directional digital turbine
Flow range: ± 16 L/s
Volume accuracy: ± 3% or 50 mL
Flow accuracy: ± 5% or 200 mL/s
Dynamic resistance at 12 L/s: <0.5 cmH2O L/s
Connectivity and data transmission: USB, Bluetooth®, wireless internal modem for acoustic coupling to telephone (telemedicine applications),
Power Supply: 4 x 1.5 V, AAA battery

GIMASPIR-50

CE 0476

Size: 70x80x30 mm
only 100 g
including battery

LCD display (2 lines x 16 alphanumeric characters)

ATS standard
FDA Approved

33471

SpO_2 option

33469

Code 33471 GIMASPIR-50 SPIROMETER
Complete and rapid pocket spirometer for the General Practitioner to carry out spirometry and SpO_2 (optional) testing anywhere.
- Turbine sensor simple to clean. **No calibration required**
- Measures the most important spirometric parameters including **FVC, FEV1, FEV1%, PEF, FEF25-75, FET**
- Automatic interpretation with traffic light indication
- Best test selected and saved in memory
- Measured parameters compared to predicted values
- Direct A4 printout to RS232 printer (with optional code 33472)
- Selectable display language (English, Spanish, French, German, Italian)
- GIMASPIR-50 is suppied in a carrying bag with spare mouthpieces

Code 33469 SpO_2 PROBE + SpO_2 MODULE
Code 33472 RS232 CABLE FOR DIRECT PRINTING
It allows to send test of last patient to a HP printer for a full A4 size printout. No connection to PC.
Code 33410 MOUTHPIECES int. Ø 2.8 x ext. Ø 3, h 6.5 cm

Technical specification
Flow sensor: Turbine with infrared interruption
Power supply: 3V Lithium battery CR123A, life 2 years in normal use
Test duration: Maximum 60 s Flow range: + 16 l/s
Flow accuracy: ± 5% or 200 ml/s whichever is greater
Max volume: 10 l - Volume accuracy: ± 3% or 50 ml whichever is greater
SpO2 range: 0-99% ± 2% - BPM range: 30-254 BPM ± 2%

MINISPIR: PC spirometer

CE 0476

Size: 52x128x26 mm
Weight: 60 g
Flow range: ± 16 L/S

ATS standard
FDA Approved

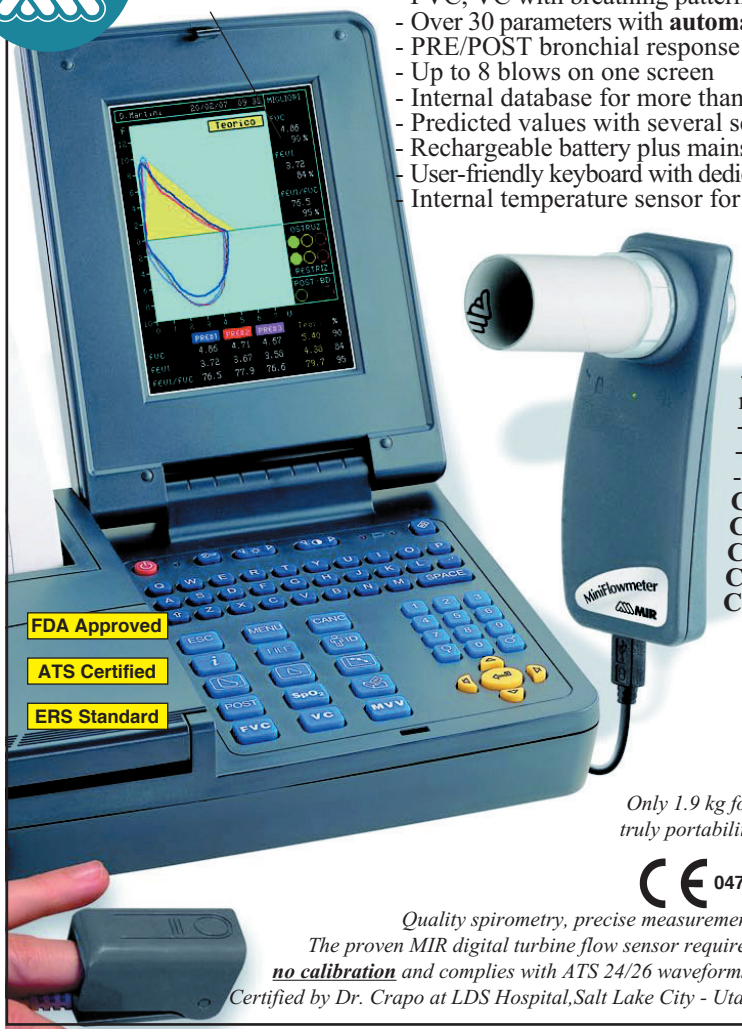
PC system requirements
Microsoft Windows:
2000, ME, XP, 98 (2nd edition)
Screen resolution: 1024x768
Hard disk: 160 MB
USB socket available

Supplied with USB cable, carrying case, winspiroPRO software

Code 33530 MINISPIR with software
USB PC Spirometer (PC not included)
Plugs directly into the USB socket of your PC, no need of batteries or other connections. Provided of internal temperature sensor for automatic BTPS conversion.
Measured parameters: FVC, FEV1, FEV1/FVC%, FEV6, FEV1/FEV6%, PEF, FEF25%, FEF50%, FEF75%, FEF25-75%, FET, Vext, FIVC, FIV1, FIV1/F1VC%, PIF,*FVC,*FEV1, *PEF, VC, IVC, IC, ERV, FEV1/VC%, VT, VE, Rf, ti, te, ti/t-tot, VT/ti, MVV best values
WinspiroPRO PC software:
On line PC connection with simple to use icon-based interface. Flow/Volume and volume/time curve shown in real time on PC. Lung age estimation. PRE-POST bronchodilator comparison. Bronchial challenge test with FEV1dose response curve. Spirometry interpretation with test quality assurance. Includes a series of user-selectable and amusing paediatric incentive animations. Powerful database facilities. Printout with comple-te spirometry report. Data and graphs export also via e-mail.

Spirolab III - Diagnostic Spirometer with SpO_2 option

LCD Colour display 240x320 pixel, size 90x120 mm



Code 33521 SPIROLAB III - diagnostic spirometer with high resolution colour display, built-in printer and PC software
Code 33522 SPIROLAB III same as 33521with SpO_2 functions

A really complete spirometry system:
- FVC, VC with breathing pattern plus MVV tests with real time curves
- Over 30 parameters with **automatic interpretation** and test quality control
- PRE/POST bronchial response protocol with F/V loop comparison
- Up to 8 blows on one screen
- Internal database for more than 6,000 complete tests
- Predicted values with several sets of authors
- Rechargeable battery plus mains power 220V-50 Hz (110V-60 Hz on request)
- User-friendly keyboard with dedicated function keys plus alphanumeric data entry
- Internal temperature sensor for automatic BTPS conversion
- Free upgradable internal software from web, maintaining previously stored data
- Selectable multilanguage internal software (English, Italian, French, German), possibility to download through internet Spanish, Portuguese, Turkish and other languages

Pediatric incentive system
High definition LCD
Database for 6000 tests
USB+Bluetooth

Finger Oximeter (33522 only)
- Short or long term (overnight) SpO_2 and Pulse Rate measurements
- ODI, NOD, T90%, T89%, T88, T87%
- Sleep oximetry with desaturation events
- Oximetry during exercise test

Code 33410 ADULT MOUTHPIECES - Ø 3 cm ext - box of 500
Code 33492 THERMAL PAPER - 112 mm
Code 33515 SpO_2 PROBE - adult - spare
Code 33516 SpO_2 PROBE - paediatric
Code 33517 DISPOSABLE SpO_2 PROBE - neonatal - box of 10

Standard accessories	
Carrying case	Software Winspiro PRO
Battery charger	USB port and cable
1 roll thermal paper	Nose clip

Only 1.9 kg for truly portability

CE 0476

Quality spirometry, precise measurement
The proven MIR digital turbine flow sensor requires ***no calibration*** *and complies with ATS 24/26 waveforms.*
Certified by Dr. Crapo at LDS Hospital,Salt Lake City - Utah

Technical specifications 33521-33522

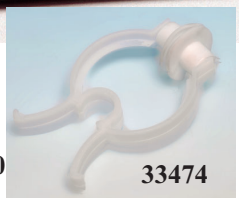
Flow/volume range	± 16 L/s
Volume accuracy:	±3% or 50 ml
Flow accuracy:	±5% or 200 ml/s
Dynamic resistance:	<0.8 cm H_2 O/l/s
Dimensions:	310 x 205 x 65 mm
Parameters:	FVC, FEV1, FEV1/FVC%, FEV6, FEV1/FEV6%, PEF, FEF25-75%, FEF25%, FEF50%, FEF75%, FET, Vext, *FVC, *FEV1, *PEF, PIF, FIVC, FIV1, FIV1/FIVC%, VC, IVC, ERV, IC, FEV/VC%, VT, VE, Rf, Ti, Te, Ti/T-tot, VT/Ti, MVV *: Best value

Made in Italy.

Mouthpieces and noseclip for most Spirometers

Gima has selected a range of paper mouthpieces (disposable) and plastic mouthpieces (re-usable) suitable for the most popular brands of spirometers and peak flow, as Cosmed, Fukuda, Ferraris, Micromedical, Mir, Multispiro, Sibel, Vitalograph, ...

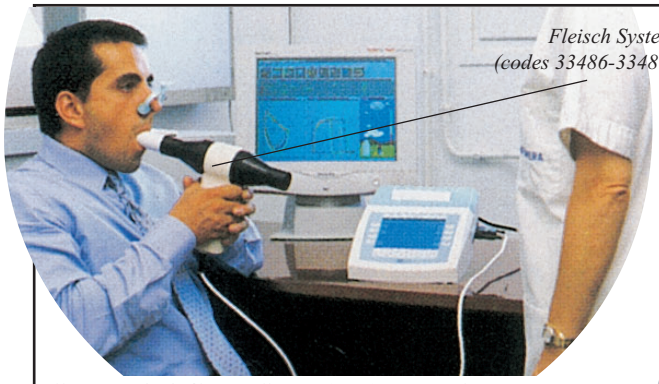
GIMA code	Material	Sizes - cm Ø int x ext x h	For GIMA codes	Compatible with
33410	paper	2.8x3x6.5 adult	33401/03/04/31/33/71, 33511/3, 33520/1	Micromedical Vitalograph Mir
33411	paper	2.0x2.2x6 paediatric	33401/3/4, 33511/3 33520/1	Micromedical Vitalograph Mir
33506	paper	2.6x2.8x6.5	33484, 33485, 33486 33487, 33480, 33510	Sibel
33494	paper	1.9x2.1x7	33486, 33487	Sibel
33890	paper	2.5x2.7x7	-	Fukuda
33892	paper	2.8x3.05x7	-	Cosmed (Pony model)
33442	plastic	2.4x2.6x5	33440	Multispiro
33432	plastic	1.7x2.1x5 2.7x3x5	33431, 33433	Ferraris



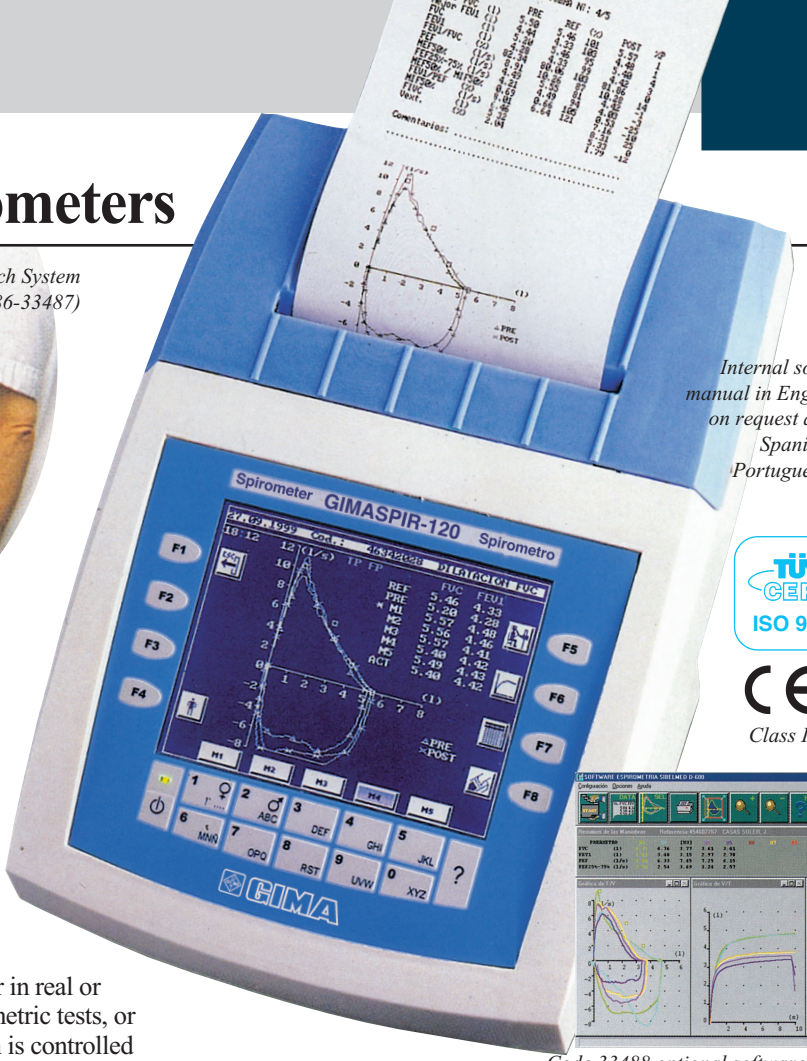
Up to 720 l/min

Code 33501 BACTERIAL VIRAL FILTER FOR GIMASPIR - reusable
Code 33504 MEMBRANE FOR BACTERIAL FILTER - disposable - box of 50
Code 33474 NOSE CLIP

GIMASPIR 120 Spirometers



Fleisch System (codes 33486-33487)

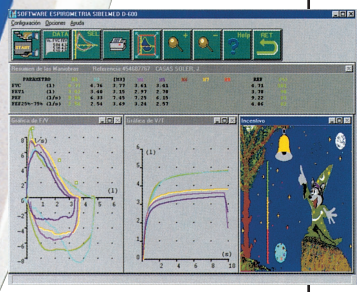


Internal software and manual in English/Italian on request available in Spanish, French, Portuguese,German

TÜV CERT ISO 9001

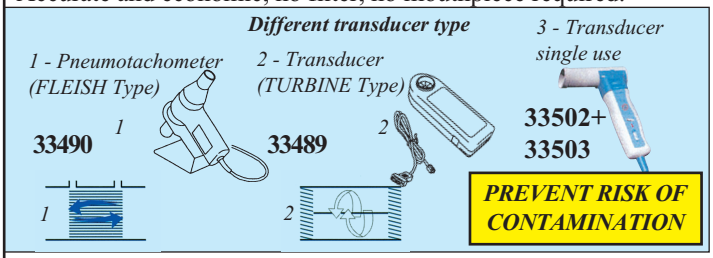
CE 0318

Class IIa



Code 33488 optional software English Italian - French - Spanish selectable

Code 33484 GIMASPIR 120A - Turbine type
Code 33485 GIMASPIR 120B - Turbine type
Code 33486 GIMASPIR 120C - Fleisch type
Code 33487 GIMASPIR 120D - Fleisch type
The spirometers GIMASPIR 120 and 110 are compact devices based on different types of transducers (Fleisch or Turbine), a wide liquid crystal backlit screen and an internal or external printer. They can incorporate a module for measuring the Maximum inspiratory and expiratory pressures (MIP-MEP) and another module for pulse oximetry measurement (SpO_2).
An optional software allows connection to a computer in real or deferred time, in order to perform and store the spirometric tests, or to transfer information by other means. All the system is controlled by a microprocessor for the acquisition, calculation and display of alphanumeric and graphic data. Gimaspir comes complete with transducer (Fleisch or Turbine type), 100 disposable mouthpieces, noseclip, 2 rolls of thermal paper, mains power supply, manual.
Code 33475 GIMASPIR 110A - Turbine single use
Same as GIMASPIR 120 A, but with disposable transducer.
This is an efficient method to prevent contamination of equipment.
Allows a number of tests to be carried out on one single patient.
Accurate and economic, no filter, no mouthpiece required.



GIMA code	Accessories for Spirometers	Compatibility of accessories 110 A	Gimaspir 120 A	B	C	D
27139	Carrying Bag	•	•	•	•	•
33488	Software Gimaspir 110 and 120	•	•	•	•	•
33489	Turbine transducer - (2) - spare	•	•	•		
33490	Fleisch transducer - (1) - spare				•	•
33491	Thermal paper - 58 mm	•	•			
33492	Thermal paper - 112 mm			•	•	•
33506	Adult mouthpieces - Ø28 ext x 65 mm		•	•	•	•
33494	Pediatric mouthpieces - Ø21ext x 70 mm				•	•
33495	Adaptor for pediatric mouthpiece				•	•
33497	Bronchoconstriction tests*			•	•	
33498	Int. database for 500 tests w. graphics*	•	•	•	•	
33499	Pmax - Pmax module*	•	•	•	•	•
33496	SpO_2 pulse oximetry module*	•	•	•	•	•
33500	Battery	•	•	•		
33505	Calibration syringe	•	•	•	•	•
33502	Single use transducer	•				
33503	Handle for code 33502	•	•	•	•	•

Technical specification	Gimaspir 110/120 A	B	C	D
FLEISCH type transducer			•	•
TURBINE type transducer	•	•		
FVC, VC, MVV tests in PRE and POST bronchodilatation mode	•	•	•	•
Bronchoconstriction tests		Option	Option	•
Graphic superposition	•	•	•	•
Check-up programme	•	•	•	•
Graphic incentive for children		•	•	•
Configuration programme	•	•	•	•
Internal data base for 150 tests graphics		•	•	
Internal data base for 500 tests graphics	Option	Option	Option	•
Internal printer	58 mm	112 mm	112 mm	112 mm
External printer connection	Option	Option	•	•
Data transfer via Internet with PC of:				
Patients tests	•	•	•	•
Device check-up data	•	•	•	•
Software upgrade	•	•	•	•
Tests exportation to other management systems	•	•	•	•
Calibration for quality control or tests, according to standards	•	•	•	•
SpO_2 module	Option	Option	Option	Option
Pmax-Pmax module	Option	Option	Option	Option
Software under Windows to work with PC in real or deferred time	Option	Option	Option	Option
Measuring range: Flow form 0 to ± 16 l/s; volume from 0 to 10 l				
Flow-Volume accuracy: 5% or 200ml/s - 3% or 50 ml whichever greater (ATS, ERS)				
Flow resistance: <0.06 kPa/l/s at 14 l/s (ATS, ERS)				
Resistance at 14 l/s: Turbine ≤ 0.125 KPa/lls Fleish ≤ 0.095 KPa/lls				
Display: Liquid Crystal Display; 320x240 pixels, Area of 120x90 mm				
Data input: Alphanumeric membrane keyboard				
Maximum duration and number of manoeuvres: FVC, 25s (5 curves); VC, 45s (5 curves); MVV, 15s (5 curves)				
Safety standards: IEC 601.1 (EN60601.1), UNE 20-613, IEC 601.1.1 (EN601.1.1)				
Power supply: 200-240 V 50/60 Hz (other voltage on demand)				
Power 25 VA (aprox.)				
Dimensions: 210x297x95 mm.				
Weight: 1.7 Kg. Made in Europe				

**If ordered separately, please indicate serial number of equipment, necessary to have access password*

Portable Audiometers

33612

CE 0318

Audiometers features	33610 AS5-A	33612 AS5-AOM
Air conduction	•	•
TDH39 phones	•	•
Continuous tone	•	•
Pulse tone	•	•
Signal indicator	•	•
Masking noise		•
Bone conduction		•
Bone vibrator		•
Patient response	•	•
LCD display	•	•

Technical specifications

Channels: one
Masking noise (33612 only): White noise
Level range = 30 to 80 dB SPL
Levels increments = 5 dB
Power supply: 220 V 50 Hz, 15 W
Dimensions: 342x246x95 mm Weight: 2,5 Kg
Norm: UNE 20-613, IEC 601.1 Made in Europe

33621

Code 33610 AUDIOMETER AS5-A - air conduction
Code 33612 AUDIOMETER AS5-AOM - air+bone+masking
Code 33620 TEST RESULTS PAD
Code 33621 INSULATION DEVICE for air conduction phone (insulation 3-4 db)
Code 33622 AIR CONDUCTION PHONE - spare
Code 27139 CARRYING BAG - nylon

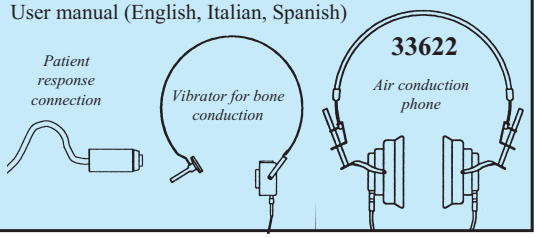
Gima audiometers have a microprocessor allowing simple and quick measure audition levels. All the operations can be made by a membrane keyboard and visualized on an alphanumeric LCD display of 16 characters.

Frequency and sound pressure levels									
Frequency	250	500	1000	2000	3000	4000	6000	8000	Hz
Max. pure tone ac	90	105	105	105	105	105	90	80	dB HL
Max. pure tone bc	40	50	50	50	50	50	-	-	dB HL
Min. pure tone ac/bc	-10	-10	-10	-10	-10	-10	-10	-10	dB HL
Level increments	5	5	5	5	5	5	5	5	dB HL
Frequency accuracy	±3% at all frequencies								
Levels accuracy	±3 dB								
	ISO 389, UNE 74-020-78								

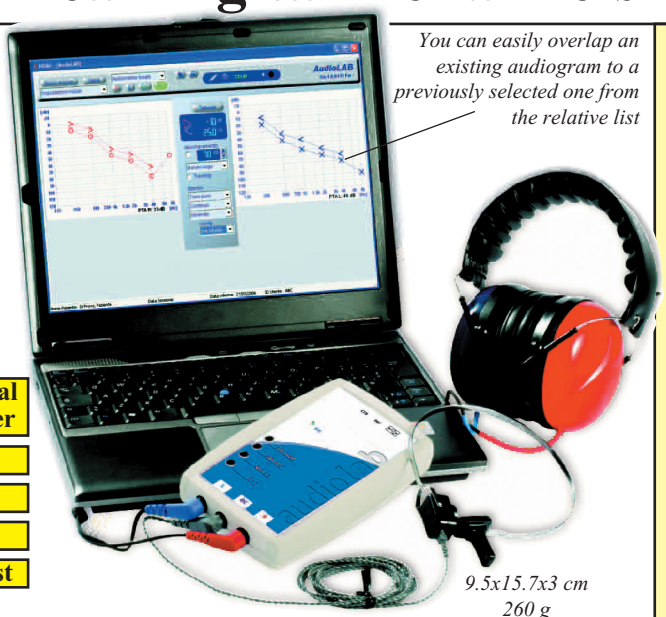
Standard accessories

1. Air conduction phones thd-39
1. Bone conduction phone (only for codes 33612)
1. Patient response switch
1. Test results pad (100 sheet)
1. Pen (red, blue)

User manual (English, Italian, Spanish)



Clinical Digital 2 channels PC Audiometer



You can easily overlap an existing audiogram to a previously selected one from the relative list

9.5x15.7x3 cm
260 g

Tonal-vocal audiometer
Masking
SISI
ABLB
Decay Test

Code 33605 AUDIOLAB AUDIOMETER

All the tecnology of a digital 2 channels clinical audiometer in only 250 g. You can perform audiometry test directly on your PC display, save on your database and print when necessary. PC not included. Made in Italy.

Standard accessories

Head phone TDH 49
Radio EAR B.71 bone vibrator
Pat response
USB cable
CD with software
Operating manual

Technical specifications

Clinical audiometer two channels (EN 60645-1)
Type 1 A-E (EN 60645-1 - EN 60645-2) - Type 2 A-E (ANSI S 3.6)
Number of channels: 2, identical and indipendent

Output

AC R - AC L - AC R+L - BC R-L - FF R - FF L - FF R+L
Masking contralateral with AC, BC, FF

Pure tone frequencies

AC: 125 - 8.000 Hz, BC: 250 - 8.000 Hz, FF: 125 - 8.000 Hz
Intensity range (1.000 Hz) - 10 + 120 dB Hl

Maximum output level

PURE TONE 1,000 Hz				
Transducer	TDH49	ER3A	B71	FF
Db HL	120	115	75	100
NBM	95	95	-	95

Speech Audiometry

Transducer	TDH49	ER3A	B71	FF
Db HL	100	100	-	100
NBM	95	95	-	95

Vocal material

• List of the words installed into internal flash memory
• CH1 - CH2 independent inputs, CD1, CD2 two separate VU-Meters, masking noise SM and WM.

Signal mode

• Normal ON - Normal OFF • Continuos - pulsed
• Warble - frequency modulated ± 5% rate 5 Hz
• ABLB • SISI with increment 1-2-3-4-5 dB. • DECAY TEST • BEKESY
• PAT RESPONSE • TALK - BACK • TALK - FORWARD
• Digital output for control Peep-Show

Accuracy

• Resolution 16 Bit
• Precision ± 50 ppm
• Stability ± 100 ppm
• Distorsion < 1%
• Ratio signal/noise > 100dB
• Power supply: USB port

Made in Italy

Clinical 2 channel Audiometer

AC50 comes complete with air and bone cuffs, patient response with switch, user manual.

FREQUENCY MAX LEVELS	125	250	500	750	1000	1500	2000	3000	4000	6000	8000	Hz
Pure tone Air Conduction	80	100	120	120	120	120	120	120	120	110	100	dB HL
Pure tone Bone Conduction	-	50	60	60	70	70	70	70	70	-	-	dB HL
Free field	-	70	90	90	90	90	90	90	90	80	-	dB HL
MASKING NOISE												
Narrow-band noise AC	60	80	100	100	100	100	100	100	100	100	90	dB HL
Narrow-band noise BC	-	40	50	50	60	60	60	60	60	-	-	dB HL
Speech noise AC	100											dB HL
Speech noise BC	70											dB HL
SPEECHAUDIOMETRY												
Air Conduction	100											dB HL
Free field	70											dB HL
Min. levels	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	dB HL
Levels increments	5	5	5	5	5	5	5	5	5	5	5	dB HL
Frequency accuracy	2% at all frequency											
Levels accuracy	±2 dB											

Code 33630 AC 50 PROFESSIONAL AUDIOMETER air + bone conduction

Permits speech audiometry, hearing loss calculations and all types of audiometric tests, both screening and liminar-supraliminar, including diagnostic tests like: PURE TONE, SISI, VOCAL DISCRIMINATION, ABLB, LÜSCHER, WARBLE, STENGER and others.

It can be connected to a printer which will produce the audiogram and hearing-loss assessment and to a PC, through an RS-232 C channel, to store and manipulate audiometric tests.

Code 33633 INTERCOM KIT (headphone+microphone)

Code 33631 SOFTWARE

Technical specifications

Channels: two
Transducers: THD 39, B-71 or B-72
Tone presentation: Continuous - Pulse - Frequency Modulation - Amplitude Modulation - ABLB - SISI
Tone switching: Normal-Inverted tone switch - With key without noises
Standards: • Safety: IEC 601.1, EN 60601.1
• Audiometry: IEC 645.1, IEC 645.2 UNE20-641
• Calibration: ISO 389, ISO 7566, UNE 74-020
Outputs: Channel RS232 C - For HP - PCL or IBM Graphics printer
Internal Memory: Capable of storing 50 patients
Power supply: 220V 50/60 Hz (other options)
Size: 470x250x95 mm - Weight: 4.5 Kg

CE 0318

Handheld Impedance Audiometer/Tympanometer

Code 33645 MT10 IMPEDANCE AUDIOMETER
Code 33646 MTP10 IMPEDANCE AUDIOMETER - with printer
Code 33647 PAPER ROLL - 80 mm thermal paper
Code 33648 SPARE EARTIPS Ø 6/7/9/10/11/13/15/18 mm - specify with order

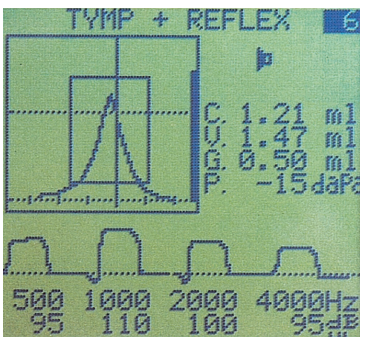
MT10 is an automatic, portable impedance audiometer for both screening and clinical applications

Main features:

- automatic Tympanometry test
- pass/fail limits on screen
- 4 acoustic reflex tests per ear
- actual reflex response is recorded
- reflexes tested at correct pressure
- automatic reflex search
- audiometric screening
- memory for 20 patients
- calculates gradient
- many printing options
- rechargeable batteries
- large high resolution display

Technical specifications

Tests	
- Tympanometry	Normal:+200 to -300daPa Extended: +300 to -600daPa
- Acoustic Reflex Test	4 reflexes per ear Automatic Intensity Search or Fixed Stimulus Intensity Intensities: up to 110 dBHL (l00 dBHL at 3-4 kHz) Frequencies: 0.5 kHz, 1 kHz, 2 kHz, 3 kHz, 4 kHz. Actual reflex recorded and displayed
- ScreeningAudiometry	Intensity: 10 dBHL to 50 dBHL Frequency: 0.5 kHz, 1 kHz, 2 kHz, 3 kHz, 4 kHz.
Probe Tone	Frequency: 226 Hz ± 3% Amplitude: 85 dB SPL ± 3 dB
Pressure	Direction of Sweep: positive to negative Pump Speed: 250 - 350 daPa/sec. Resetting Time: 0 Seconds. Pressure Accuracy: +/- 10% or 10daPa
Internal Memory	Tympanometry, 4 reflex recordings and Audiogram for Left as well as Right ear. 20 patients' full testing scheme. Selective patient storing.
Power supply	3 High quality rechargeable NiMH batteries included.
Weight and Dimensions	MT 10 Weight: 500 g MT 10 Dimensions: 10x25x13 cm



Acoustic reflex test

Standard accessories

Base station with built-in thermal printer, charging and "interface to PC (only code 33646)

3 rolls of thermal paper	set of eartips
power supply	operation manual
3 NiMH rechargeable batteries	service manual

Portable Audiometers

Code 33601 PA5 AUDIOMETER
Code 33602 PA5 SINGLE EARPHONE for adult use
The pediatric audiometer PA5 is a free field audiometer for testing children's hearing.
Together with the optional single earphone it can be used also for adult.
Main features:
- Warble tones and narrow band noise
- White noise for easy detection
- Triangle light simulation
- COR, APR, and VRA
- Silent presentation button
- Automatic battery switch and indicator

Includes 3 "AA" batteries.

Technical specifications

Frequencies:	500, 1000, 2000, 3000, 4000 Hz.	
Stimuli:	Warble tone, NB and WN	
Intensities:	Distance 50 cm:	30-80dB HL in 10dB steps, for Warble Tone and WN. 20–70dB for NB
	Distance 16 cm:	increases intensity by 10 dB.
Weight:	360 g	
Dimensions:	LxWxH: 25x7x5cm	

Insulated Booths

The GIMA insulated booths have been designed using the newest sound-insulation materials. This feature has allowed to reduce the weight with a high insulation and functionality, and beauty too.
The external surface is made of washable panels.
Inside it is pleasantly illuminated and comfortable.
It allows a fast and easy assembling performable by no specialized worker.

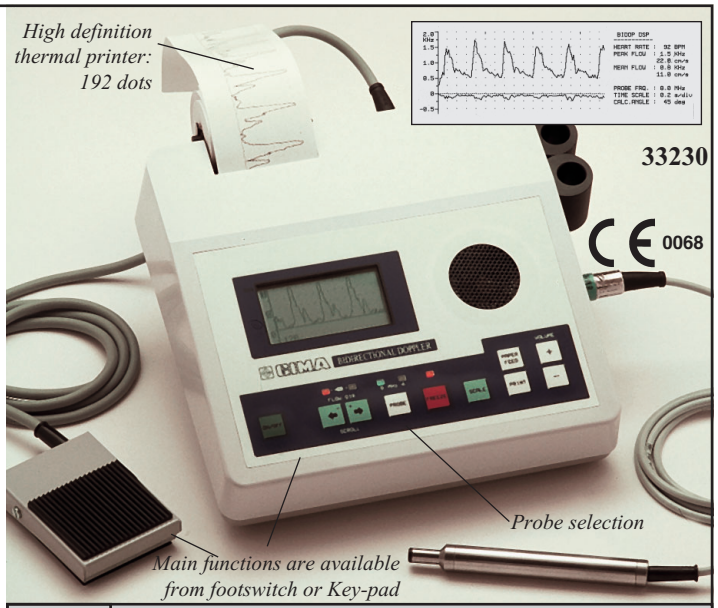
GIMA code	Insulated Booths
33639	85 x 72 x 187 cm
33640	90 x 90 x 215 cm
33641	110 x 110 x 215 cm
33642	125 x 125 x 215 cm

Technical specifications

Attenuation:	33.5 dB “250 - 8000 Hz” (certified)
	32 dB “100 -10000 Hz” (certified)
Weight:	265 kg approx.
Ventilation:	unforced ventilation system
Window:	double panel
Rules:	CEI 601.1, ANSI S3.1, ISO 8253-1
Power supply:	220 V 50-60 Hz (other options) Power consumption: 50 W
Adaptable to any audiometer	Certified by: investigacions N. 95.007.927

GIMA portable, bidirectional, vascular doppler

Code 33230 GIMA BIDIRECTIONAL DOPPLER
NON STEREO with two probes: 4 and 8 MHz.
Continuous wave (CW) bidirectional doppler with 4 and 8 MHz probes. It is equipped with electronic probes for high sensitivity and low background noise.
- Bidirectional graphic separation of flow (forward and reverse)
- LCD graphic display for real time display of forward and reverse flow in bidirectional or separate mode
- Selectable amplitude scale: 1, 2, 4, 8 kHz. during the test and before printing. Preset zero line.
- 5 minutes (300 sec.) continuous and reviewable memorized test. Operator can select the most meaningful exam and print it.
- Calculation of: heart rate, peak flow and mean flow.
- Simultaneous connection of high sensitivity probes
- Internal rechargeable large capacity battery (Ni-Cd 1.8 Ah) ; the system can be operated during charging. Autonomy 8 hours use or 1 hour print.
- Footswitch for freezing or memorizing the graphs
- Hardcopy may or may not include the parameter calculation
- Printing time scale: 25 mm/s.
- High definition thermal printer 192 dots
- Hi-fi audio output for correct acoustic diagnosis
- Light, only 1.8 kg, and compact (24 x 23 x 8 cm)



GIMA code	Gima dopplers accessories
33240	GIMA bidirectional probe 4 MHz - spare for 33230
33241	GIMA bidirectional probe 8 MHz - spare for 33230
33250	Thermal paper 58 mm x 25m (pack of 5 rolls)

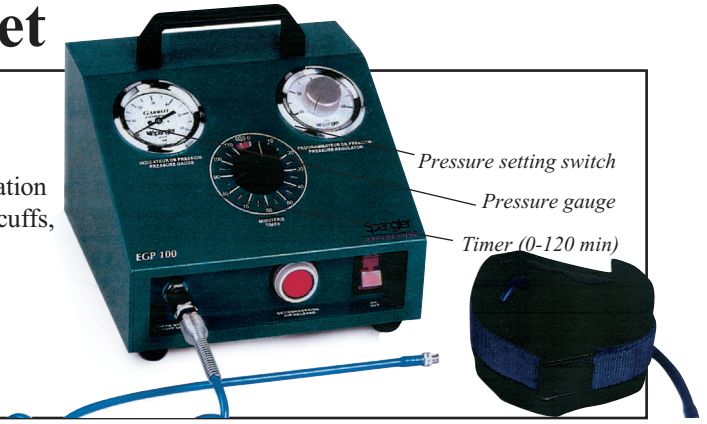
Electro-Pneumatic Tourniquet

Code 33132 ELECTRO-PNEUMATIC TOURNIQUET
With one adult cuff and one THIGH cuff
Applications: surgery of arms and legs, local anaesthesia.
Built-in compressor, pressure setting up to 60 cm Hg, automatic compensation in case of loss of pressure, quick/Emergency disconnecting facility of the cuffs, solid cast-iron enclosure with transport handle,washable Velcro™ cuffs.
Code 33135 SPARE CUFF Specify for adult, child or neonate.
Code 33140 SPARE THIGH CUFF

Technical specifications

Operating voltage: 220 V - 50 Hz	Weight: 3.5 kg
Size: 23 x 23 x 23.5 cm	Made in France

CE 0494



Stereodop - Professional Vascular System

Code 33235 STEREODOP with 2 probes: 4 and 8 MHz
STEREODOP GIMA is a continuous wave (CW) bidirectional stereo doppler with 4 and 8 MHz pencil probes, high resolution printer, large LCD display and rechargeable batteries that provide a doppler signal of high quality.

Main features

- **Real time high resolution thermal printer.** With 3 speeds: 5, 12.5, 25 mm/s, 384 dots on 58 mm thermal paper.
- **High resolution backlit LCD graphic display.** 320x240 dots, 1/4 VGA.
Selectable zero line position. Inversion of graph and scale.
Mode selection: bidirectional or separate.
Display speeds: 5, 12.5, 25 mm/s. Double printer control.
- **Hi-Fi stereo audio amplifier.** Acoustic power: 5 + 5 watt.
Venous filter selection. Bandwidth: 20 Hz to 12 KHz.
Automatic gain control (AGC) and digital volume regulation.
- **Double footswitch:** for freezing (the right) and for printing (the left).
- **Microprocessor controlled system.** Memory of last 90 sec.
The post processing system allows the flow of graph to change the scale, the zero line positioning, the speed, to make the inversion, to select the mode and to insert or to include or exclude the following calculations: peak systole, end diastole, mean velocity, pulsatility index, resistivity index and heart rate.

Standard accessories

2 electronic probes: 4 and 8 MHz.		Footswitch
Battery charge		Carrying case
Gel bottle 50 g	Thermal paper roll 30 m	Manual (English, Italian, French)

CE 0068
4 and 8 MHz pencil probes
GIMA STEREODOP
Internal battery: autonomy 4 hours recharge in 90 minutes
Size: 28 x 30 x 13 cm - weight: 2,5 kg

GIMA code	Stereodop accessories
33237	Stereodop probe 4 MHz
33238	Stereodop probe 8 MHz
33250	Thermal paper 58 mm x 25 m (pack of 5 rolls)

Pocket doppler with interchangeable or fixed probes

Technical specifications

Ultrasound

Frequency:	2, 5 or 8 MHz continuous wave
Transducer:	2 crystal narrow beam
Output power:	<15mW/cm² SATA
Audio Response:	300Hz - 4 KHz

Unit Controls

Keys:	1 Key (for unit on/off)
Controls:	rotary volume
Indicators:	Yellow battery low LED

Power supply
Battery 9 V Alkaline Manganese (not included)
Expected battery life: >9 hours

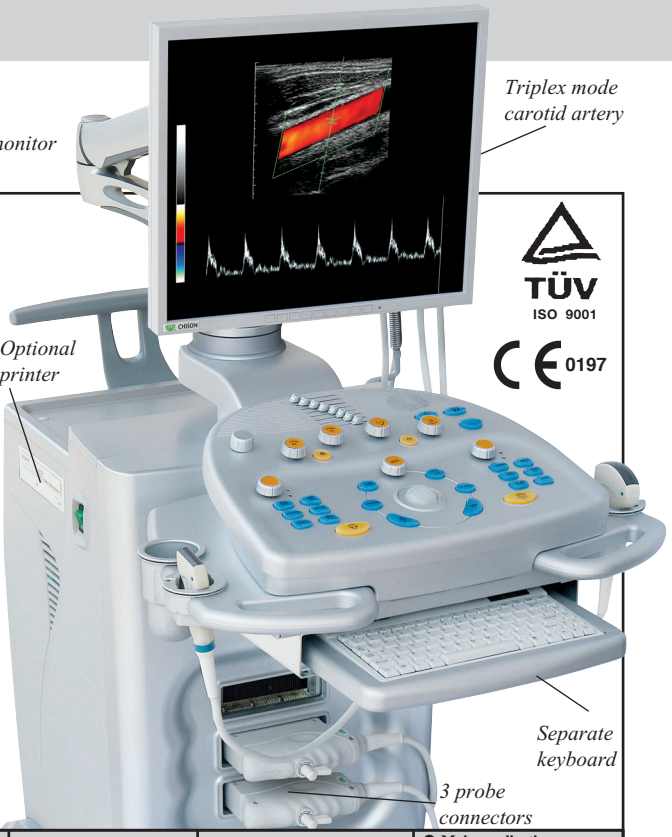
Output

Headset:	Audio output to optional headset (not included)
Material:	ABS / Noryl
Size:	150 mm by 75 mm
Weight:	299 g (with transducer)
Classification:	Class I Type B - IEC 60601-I
Warranty:	1 year - Made in UK

GIMA POCKET DOPPLERS
Small, lightweight, high sensitivity pocket Doppler. Its probes are ideal for use by a General Practitioner, vascular specialist for routine vascular examination in ER for vessel location, or by specialists in diabetes, urology and gynaecology. Vascular flow signals and FHR are easily located using the transducer while internal signal processing minimises noise artefacts. The flow signal is also available to the user via the built-in loudspeaker with output level controlled by rotary volume control.

GIMA code	GIMA Pocket Dopplers
33120	DOPPLER V2005 with 5 MHz fixed vascular probe
33121	DOPPLER V2008 with 8 MHz fixed vascular probe
33123	DOPPLER V2000 (without probe)
33126	2 MHz interchangeable probe - foetal for V2000
33127	5 MHz interchangeable probe - vascular for V2000
33128	8 MHz interchangeable probe - vascular for V2000
29511	ON/OFF MEMBRANE SWITCH spare for 33120/3

Digital Ecocolourdoppler



Code 33980 ECOCOLOURDOPPLER - 17" flat monitor
Supplied with 3 probe connectors, trolley, keyboard, without probes
Digital colour Doppler System with professional features:
Imaging mode:
- B (2D), B/B, B/M, M, 4B, Power Doppler, Pulse doppler, CFM
- Triplex (real time simultaneous 2D, doppler and colour)
- Duplex (real time simultaneous 2D and doppler)
- Trapezoidal imaging - **Harmonic,** optional 3D

Image processing technology:
- Full digital beam former - Auto doppler - Data edit: frozen image can be optimized by changing gain, STC, zoom, dynamic range, smooth, frame averaging, base line...

Raw data image post-processing:
- Image edition can be done after patient leave

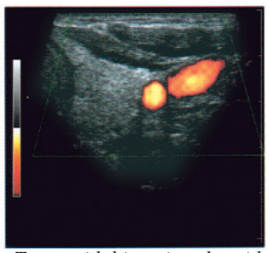
Software Package for most clinical applications
- For abdomen, OB/GYN, cardiac, vascular
- Intelligent zoom, real time, frozen zoom.

Fully PC-Based and Windows operating system
- Fast data processing
- Large image storage: HardDisk, USB, CD, 1394 Port
- Print directly to PC-printer and Video-printer

Wideband multifrequency probes
Continuously adjustable, 2-12 MHz

Code 33981 ECOCOLOURDOPPLER + 3D
Same as code 33980 but with 3D free hand package

Code 33990 MITSUBISHI CP900E COLOUR PRINTER

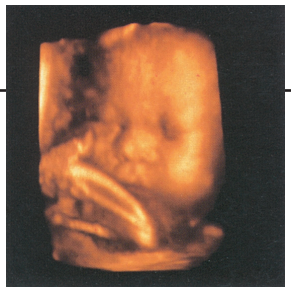

Trapezoidal imaging-thyroid

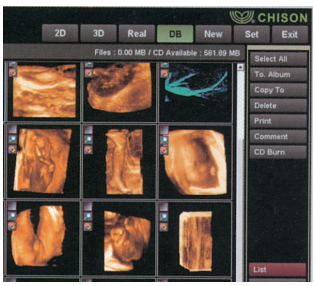
Power doppler-liver

GIMA code	Probes: Outlook	Probes: Scanning Method	Frequency (MHz): Main freq.	Frequency (MHz): 4-Step Multi-frequency	Abdominal	OB/GYN	Urology	Small parts	Breast	Cardiology	Proctology	Pediatrics	Vessels
					● Main application ○ Alternative application								
33983		Convex	3.5	2.5/3.5/4.5/5.0	●	●							
33984		Linear	7.5	5.0/6.0/7.5/9.0				●	○			○	●
33985		Micro-convex (Transvaginal)	6.0	4.5/6.0/7.0/8.0		●	●					○	
33986		Cardiac	3.0	2.0/2.5/3.0/3.5						●			
33987		Linear	9	6-12				●	○			○	●

B/W 2D and 3D Ecographs

910x550x1310 mm
80 kg


B/W images during 3D elaborations looks like in colours



Professional software package

Code 33970 ECOGRAPH 8800-2D - supplied with three probes connector, trolley, ergonomic keyboard, cine memory card and 14" SVGA monitor, without probes.
Same as code 33959 but with extra features:
- 128 frame cine memory, cine loop, picture-in-picture
- 80 G hard disk - 100,000 images capacity
- CD driver and floppy driver, USB port
- Intelligent zoom function (real time and frozen mode)
- LAN output for direct connection to PC
- Professional software package included

Code 33971 ECOGRAPH 8800 - 3D - without probes
Same as 33970 but with 3D free hand package
- Easy to use, live training material available
- Special sensor allows fast 3D scanning
- 3D package is built inside the 2D system and use 2D probes reducing hardware costs

Foot switch included

GIMA code	Probes: Outlook	Probes: Scanning Method	Frequency (MHz): Main freq.	Frequency (MHz): 4-Step Multi-frequency	Abdominal	OB/GYN	Urology	Small parts	Breast	Cardiology	Proctology	Pediatrics	Vessels
					● Main application ○ Alternative application								
33972		Convex with 3D sensor	3.5	2.5/3.5/4.5/5.0	●	●	●			○			
33973		Convex	3.5	2.5/3.5/4.5/5.0	●	●	●			○			
33974		Linear	7.5	6.0/6.5/7.5/9.0				●	○			○	●
33975		Micro-convex (Transvaginal)	6.0	4.5/5.0/6.0/7.0		●	○				○	○	
33976		Cardiac	3.0	2.0/3.0/4.0/4.5						●			

For codes 33959/70/71, 33980, 33981 we can provide full training in our facilities or in your facilities (Europe only).

B/W Digital Ultrasound System - Ecograph

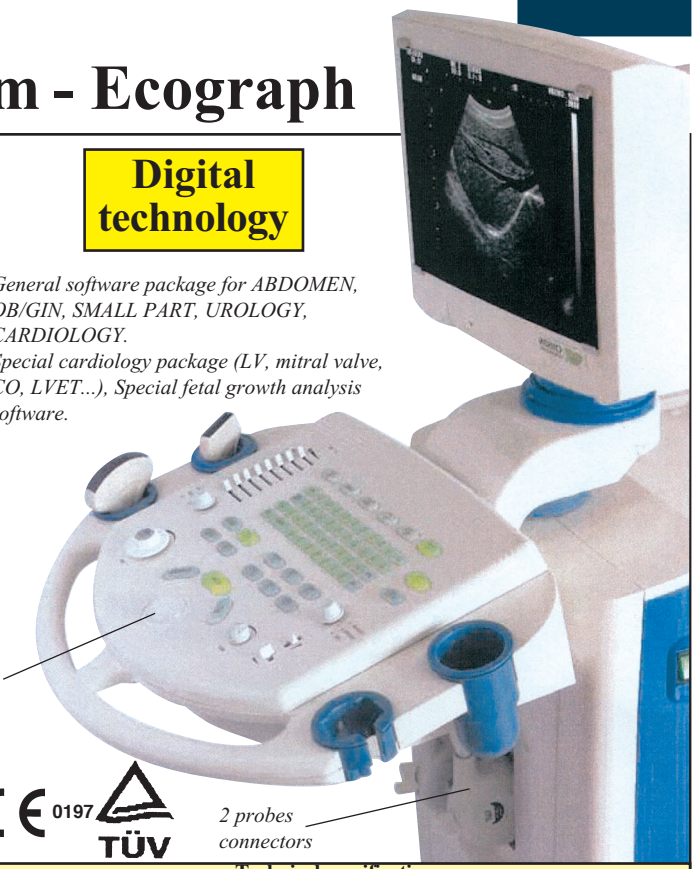
Code 33910 ECOGRAPH 8500 - supplied with two probes connector, trolley, ergonomic keyboard, cine memory card and 14" SVGA monitor, without probes.
- **Excellent image:** 14" SVGA monitor with scanning line by line, flashing free, 256 grey levels. **Harmonic** imaging.
- **Unlimited memory:** 128 frames allow you to choose the best image when you miss the right moment.
- **USB port** to import/export images to a PC
- **Zooming:** intelligent 4 steps
- **Digital multi frequency probes:** each probe has 4 steps of frequency, tailored to different patient's body types (2-9 MHz).
- **Image processing: Pre-processing:** IP selection, dynamic range, edge enhancement, smooth, frame averaging, scanning angle selection, line density selection. **Post-processing:** Ycorrection, gray transformation, gray rejection. **STC:** 8 slides for near, far and overall gain control.
- **Image reversing:** left/right, up/down, positive/negative

General measurements: B mode: distance, circumference, area, volume, ratio, angle, % stenosis, histogram, profile.
M mode: distance, time, velocity, heart rate.
EDD tables: BPD, GS, CRL, FL, HC, AC (user-defined EDD tables are available)

Code 33968 FOOTSWITCH

Digital technology

General software package for ABDOMEN, OB/GIN, SMALL PART, UROLOGY, CARDIOLOGY.
Special cardiology package (LV, mitral valve, CO, LVET...), Special fetal growth analysis software.



Multi-function knob for quick adjustment

2 probes connectors

CE 0197 TÜV

GIMA code	Probes		Frequency (MHz)		● Main application ○ Alternative application								
	Outlook	Scanning Method	Main frequency	4-Step Multi-frequency	Abdominal	OB/GYN	Urology	Small parts	Breast	Cardiology	Proctology	Pediatrics	Vessels
33914		Convex*	3.5	2.5/3.5/4.0/5.0	●	●							
33915		Linear	7.5	5.0/6.0/7.5/9.0				●	○			○	●
33916		Micro-convex (Transvaginal)	6.0	4.5/6.0/7.0/8.0		●						○	
33917		Cardiac	3	2.0/3.0/3.5/4.5						●			
33918		Transrectal	7.5	5.0/6.0/7.5/9.0			●						

Technical specifications

2 VGA output, 1 video output, footswitch part.
Display mode: B, B/B, B/M, M, 4B
Scanning technique: real time dynamic imaging (RDA, RDF, DFS, DRA)
Scanning depth: 240 mm max. (depending on probe type)
Probe frequency: 2-9 MHz
Power supply: 230V/50Hz (110V/60Hz on request)

** With 2nd harmonic imaging*

Portable Ecograph for human uses

Lightweight: only 7 Kg (size: 42x27x25 cm)

CE 0197 TÜV ISO 9001

33931

Two probes connector included with 33931

Code 33931 PORTABLE ECOGRAPH 10" SVGA monitor with two probe connectors, 64 frames cine memory, without probes
- Zooming and measurement functions
- Wide applications: GYN, urology, abdominal, small parts
- Easy to use, just one day to learn all functions
- 4-steps sweep speeds for cardiac study: 2s, 4s, 6s, 8s
- 4-steps zoom with depth control: x0.8, x1.0, x1.5, x2.0
- Various measurements: Distance, Circumference, Area, Volume
- Full Ob/Gyn software included: 7 EDD tables (BPD, GS, FL, AD, HC, AC, CRL), G.A. (fetal age) from 4-43 weeks
- Fetal weight, fetal heart rate measurement
- Imaging reversing: up/down, left/right, positive/negative
- Power supply: 230 V/50 Hz (110V/60 Hz on request)

Code 33967 SONY PRINTER UP-897 MD
You can use any other printer for ecograph on the market

GIMA code	Probes		Frequency (MHz)		● Main application ○ Alternative application								
	Outlook	Scanning Method	Main freq.	4-Step Multi-frequency	Abdominal	OB/GYN	Urology	Small parts	Breast	Cardiology	Proctology	Pediatrics	Vessels
33932		Convex	3.5	2.5/3.5/4.0/5.0	●	●	●						
33933		Linear	7.5	5.0/6.0/7.5/9.0				●	○				●
33934		Micro-convex (Transvaginal)	6.0	4.5/6.0/7.0/8.0		●	○						

Code 33969 ECOGRAPHY SOFTWARE

For any brand of ecograph

For storing and saving ultrasound pictures on a PC, fully personalizable by users it allows re-printing of images and examination report. Compatible with windows XP, ME, 2000. It can download pictures from any brand of ecograph.It can also download data from the following brands: Esaote, Siemens, Toshiba, Philips, Medison, Hitachi

Digital Portable Ecograph

Code 33900 DIGITAL PORTABLE ECOGRAPH 8300 supplied with 10" SVGA monitor and 2 probes connectors, CINE memory card, 2 USB ports, software packages. Without probes.

Professional portable ecograph with wide range of probes and high quality of images suitable in many specialistic fields.

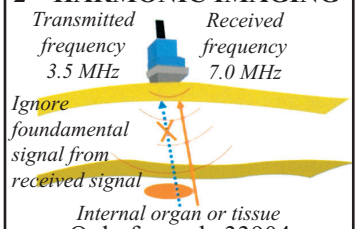
CE 0197 TÜV ISO 9001

Image:
- B, B/B, 4B, M, B/M
- Harmonic imaging
- 256 gray scales
- Scanning depth: max 240 mm (depending on probe)

Probes: supplied with 2 probe connectors
- Selection of 5 probes: Electronic Convex / Linear / Transvaginal / Transrectal / Cardiac
- Wideband multi-frequency 2-9 MHz

Image processing:
- Fully digital beamforming technology
- Real-time dynamic imaging: RDF, RDA, DFS, DRA
- Frame averaging: 8 steps
- Linear averaging: 8 steps
- 6 STC slides for near far and overall gain control
- Image reversing: left/right, up/down
- Zoom: intelligent zoom, 4 steps

2ND HARMONIC IMAGING



Only for code 33904

Measurement and report
- B mode: Distance, circumference, area, volume,ratio, angle, %stenosis, histogram, profile
- Cardiology package: LV, mitral and aortic valve, CO, LVET, MVCF, SV, EF, cardiac index
- Software package: Abdomen, OB/GYN, Cardiac, Urology
- M mode: distance, time, velocity, heart rate
- EDD tables, gestational age: BPD, GS, CRL, FL, HC, AC
- Fetal weight, fetal heart measurement, growth analysis, LMP, BBT

Others
- CINE: 128 frames, play back selectable
- 10 inch, SVGA high resolution monitor
- image permanent storage: hard disk, USB (2 ports)
- can use PC printer (A4) or video printer

Code 33901 TROLLEY: Modern design, height adjustable trolley, provided of 4 wheels with brake.

Code 33967 SONY PRINTER UP-897MD

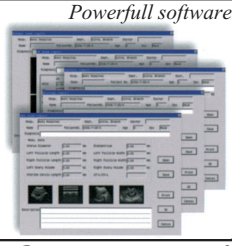
33900+33901+33967

GIMA code	Probes		Frequency (MHz)		● Main application ○ Alternative application								
	Outlook	Scanning Method	Main freq.	4-Step Multi-frequency	Abdominal	OB/GYN	Urology	Small parts	Breast	Cardiology	Proctology	Pediatrics	Vessels
33904		Convex	3.5	2.5/3.5/4.0/5.0	●	●							
33905		Linear	7.5	5.0/6.0/7.5/9.0				●	○			○	●
33906		Micro-convex (Transvaginal)	6.0	4.5/6.0/7.0/8.0		●	○					○	
33907		Cardiac	3.0	2.0/3.0/3.5/4.5						●			
33908		Transrectal	7.5	5.0/6.0/7.5/9.0			●					●	

Fully portable, ergonomic design

Powerfull software

Report templates: NORMAL, OB, GYN, UROLOGY, CARDIAC reports



Portable Ecographs for Veterinary applications

Code 33936 VETERINARY ECOGRAPH 10" SVGA monitor with two probe connectors, cine memory card, without probes.
- Image reversing: left/right, up/down, positive/negative
- Zooming: x 1.0, x1.2, x1.5, x2.0 with scroll-up depth control
- Measurements: distance, circumference, area, volume (bladder volume, thyroid volume), 15 body marks.
- Reproduction software: Bovine: BPD, CRL, Trunk diameter, Equine: GA, Canine: GS, CRL, HD, BD, Feline: HD, BD Ovine: BPD, CRL, Trunk, Diameter
- Power supplies: 230V/50 Hz (110V/60 Hz on request)

Code 33967 SONY PRINTER UP-897 MD

GIMA code	Probes		Frequency (MHz)		Applications			
	Outlook	Scanning Method	Main freq.	4-Step Multi-frequency		Pregnancy	Abdominal	Cardiology
33932		Convex	3.5	2.5/3.5/4.0/5.0	Ovine		●	
					Canine		●	
33938		Linear Rectal	5	3.5/5.0/6.0/7.0	Equine	●		
					Bovine	●		
					Ovine	●		
33939		Micro-convex	5	3.5/5.0/6.0/7.0	Feline		●	●
					Canine			●

Sony printer and paper

Code 33967 SONY PRINTER UP-897 MD - black/white
Produces A6 size printings in about 2 seconds, with superb print quality and color with 325 dpi and grey level of 256 steps.
110-240 V AC, 50/60 Hz
Code 72730 SONY PAPER - UPP-110 HD - box of 5 rolls
High density printing paper- 110 mm x 20 m
Code 72731 SONY PAPER - UPP-110 HG - box of 5 rolls
High glossy printing paper- 110 mm x 18 m

Gima videoprinter paper

Code 72721 VIDEOPRINTER PAPER - roll 110mm x 21 m

GIMA Videoprinter paper-compatibility list

List of compatible printers	Alternative to papers	Nr of prints
Mitsubishi electric P-60/61/65/66/67/90/91	K-61 B, K-65 HM	200
Sony UP-860-890/D860/D890	UPP-110 S, UPP-110 HD, UPP-110 HA	80
Aloka	SSZ-300 S	100
Hellige SSZ-300	226 149 01	100
Helwett-Packard	77510 A	200

Coupling Gel for Ultrasound, EEG and EMG

COUPLING GEL this versatile product can be used with:
- all ultrasound transducers, to create a perfect contact between transducer and skin.
- **electrical devices** (dopplers, cardiotocographs, echoencephalography, miography, transcutaneous stimulation in physiotherapy, defibrillator and other electromedical devices) to increase electrical conductivity between electrodes and patient body
Does not create dirt or cause irritation, soluble in water, easily removable by a towel. Made in Italy.

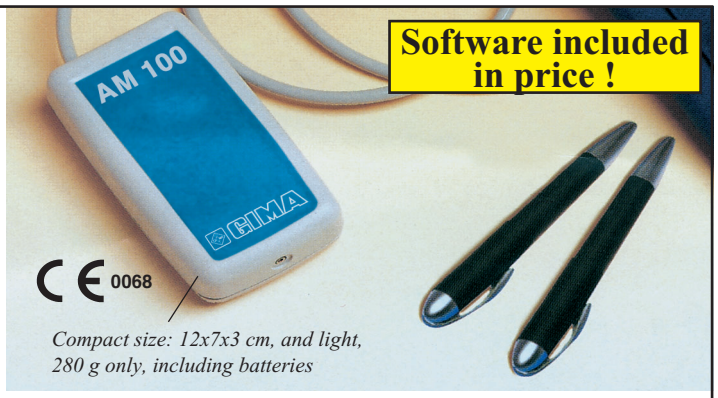
CE

GIMA code	Gel for Ultrasound, Doppler, EEG, EMG,...	Minimum order
33370	Gel for Ultrasound (tube 250 ml.)	24 tubes
33372	Gel for Ultrasound (bottle1000 ml)	20 bottles
33373	Gel for Ultrasound (rigid tank of 5 Kg)	4 tanks
33374	Gel for Ultrasound (soft bag of 5 Kg)	4 bags

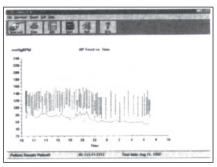
Up to 52 hours Ambulatory Blood Pressure Monitor

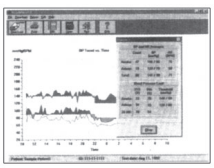
Code 33351 AM100 GIMA ABPM with adult cuff
Code 33353 ADULT CUFF - 57x14.5 mm - spare
The AM100 is a compact, lightweight instrument that provides a cost-effective solution for monitoring patient's blood pressure outside the clinical environment.
AM100 employs the popular oscillometric technique of blood pressure measurement that is used in patient monitoring in hospital worldwide. The simplicity of this technique provides for the quickest patient hook-up. AM100 interfaces to **Win Pro PC** Software for monitor programming as well as report editing and generation.
Oscillometric technology: quick hook-up, making it easy to use, saving your staff time
Compact and quiet: quiet operation and compact size aids patient compliance.
Low power consumption: requires only two "AA" batteries, making this unit much less expensive than others.
AM100 is supplied complete with software, standard cuff, carrying-bag, English manual and PC connection cable.
Pediatric cuff (34x11 cm) and large cuff (62x17 cm) on request

Technical specifications
Tecnique: Oscillometry with step deflation
Accuracy: +/- 3 mmHg
Display: Liquid crystal
Recording duration: Up to 52 hours
Sample quantity: Over 250 sample of systolic, diastolic, MAP and heart rate
Sampling periods: 3 time periods
Power source: 3 VDC/Two 1.5 V "AA" Alkaline

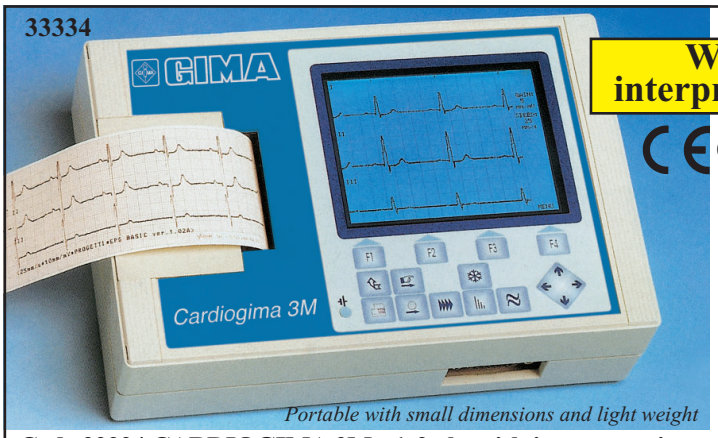


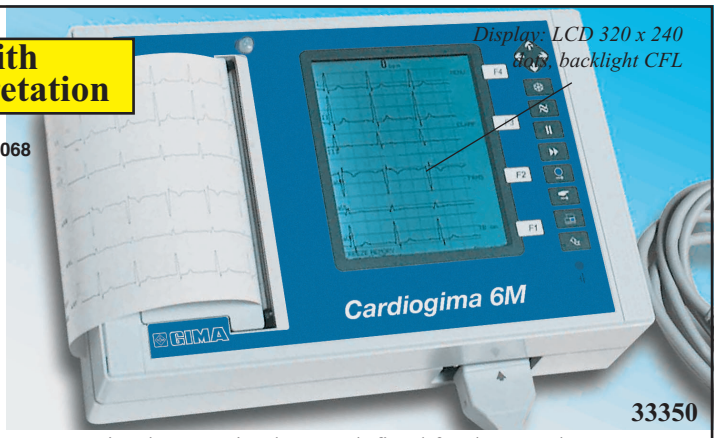
PG WIN PRO PC INTERFACE
- Creates a monitoring plan tailored to an individual patient with up to 3 specific time periods
- Generates concise clinical reports.
PG Win reports include full disclosure of blood pressure readings, heart rate, mean arterial pressure, blood pressure load and trend of BP values vs. time.





3 and 6-12 Channel digital ECG with high resolution monitor





Code 33334 CARDIOGIMA 3M - 1-3 ch. with interpretation
Code 33350 CARDIOGIMA 6M - 3-6-12 ch. with interpretation (monitor 3-6 channels, printer 3-6-12 channels)

- LCD monitor in Standard or Cabrera format with base line setting
- High resolution thermal printer (8 dots/mm): hardcopy 1-3 or 3-6-12 channels real time with possibility to print a millimetric grid
- Manual or automatic recording
- Image freeze with memory scrolling for reviewing and hard copy of acquired signals (Memory 10 seconds for each lead)
- Digital filters for elimination of muscle tremors, power line and base line noises.
- Pacemaker detection
- Power supply by built-in high capacity Ni-Cd batteries and fast charging time
- Very simple operation by pre-defined fast keys and menus
- Based on a risk processor for a full digital signal processing

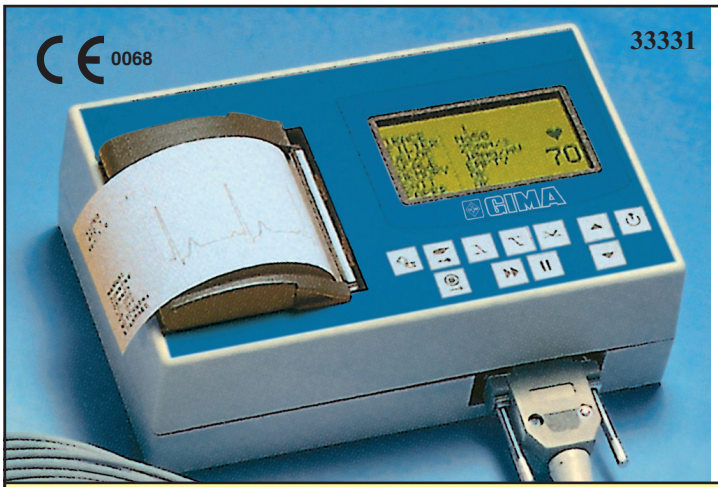
Standard accessories 3M and 6M	
Patient cable	6 chest limb electrodes
4 limb electrodes	1 roll of paper
Manual (English, Italian)	1 bottle of gel
Rapid guide: English, Spanish, Italian	

GIMA code	Cardiogima accessories	Minimum order
27139	Transport bag (see at page 24)	-
33338	Thermal paper 58 mm x 25 m (Cardiogima 3M)	10 rolls
33352	Thermal paper 112mm x 23m (Cardiogima 6M)	10 rolls
33328	ECG cable - spare	-

Technical specifications Cardiogima 3M and 6M

Power supply: internal rechargeble ni-cd batteries
Operating Voltage: 220V ±10%; 50 - 60Hz; 150mA (110V-60Hz on request)
Battery autonomy: 2.5 hours
Applied part: CF type
Input impedance: > 100 Mohm
Frequency response: 0.05: 145hz
Cmrr: > 91 dB (3M) 100 dB (6M) Time constant: > 3.2 s
Acquisition: 12 bit 800 samples/sec/channel-isochrome
Leads: 12 standard or Cabrera
Sensitivity: 5mm/mV; 10mm/mV; 20mm/mV ±5%
Scrolling speed: 5mm/s; 10mm/s; 25mm/s; 50mm/s
Signal memory: 10s for each lead
Printer: thermal printer 8 dots/mm, paper 58 mm (3M) 110 mm (6M).
Filters: muscles tremors 35Hz digital; power line interferences 50-60Hz digital; high pass 0,5Hz digital
Defibrillation protection: internal
Display/Hardcopy: 1/3 channel (3M) 3/6/12 channel (6M)
Dimensions: 240 x 160 x 65 mm. Weight: 1.5 kg. Made in Italy

Gimaplay 1 - single channel ECG



Code 33331 GIMAPLAY 1 - 1 channel ECG with monitor
A real portable ECG with small dimension and light weight, with LCD monitor and high resolution thermal printer (8 dots / mm hardcopy, 1 channel real time)
With manual or automatic recording, memory 10 seconds for each lead. Includes digital filters for elimination of muscles tremors, power line and base line noises. Based on a risk processor for a fully digital signal processing
Code 33338 THERMAL PAPER 58 mm x 25 m
Code 33328 ECG CABLE - spare

Standard accessories 3M and 6M	
Patient cable	1 roll of paper
1 bottle of gel	4 limb electrodes
Manual (English, Italian)	6 chest limb electrodes
Rapid guide: English, French, Spanish, Italian	

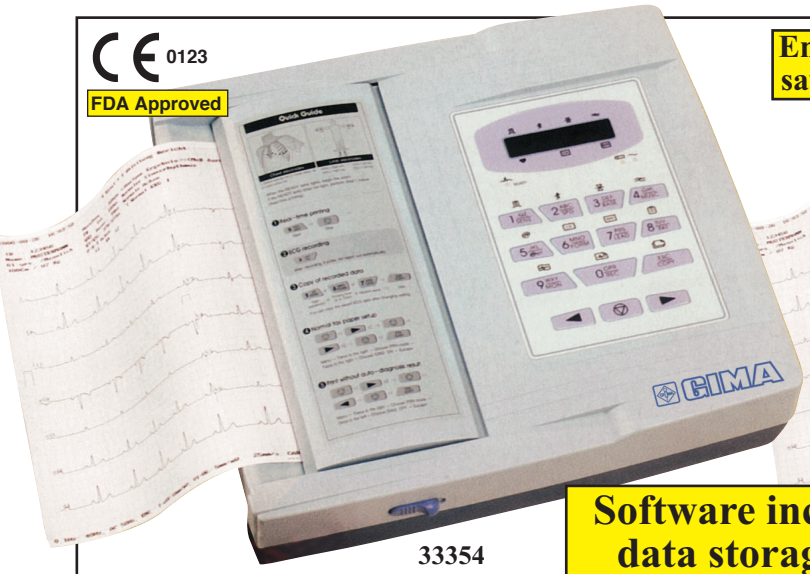
Technical specifications

Power supply: internal rechargeble ni-cd batteries
Operating voltage: 220V ±10%; 50 - 60hz; 150mA max (110V - 60 Hz on request)
Battery autonomy: 4 hours
Applied part: CF type
Input impedance: > 100 Mohm
Frequency response: 0.05: 145hz
Cmrr: > 100 dB time constant: > 3.2 s
Acquisition: 12 bit 800 samples/sec/channel
Leads: 12 standard
Sensitivity: 5mm/mV; 10mm/mV; 20mm/mV ±5%
Scrolling speed: 5mm/s; 10mrn/s; 25mm/s; 50mm/s
Signal memory: 5s for each lead
Printer: thermal printer 8 dots/mm, paper 58-60 mm.
Defibrillation protection: internal
Filters: muscles tremors 35Hz digital; power line interferences 50-60Hz digital; high pass 0.5Hz digital
Dimensions: 190 x 120 x 60 mm. Weight: 900 g.
Conformity standards: 93/42/CEE; EN60601-1; EN60601-1-2; IEC601-2-25 Made in Italy

Multi channel ECG with interpretation on paper

CE 0123

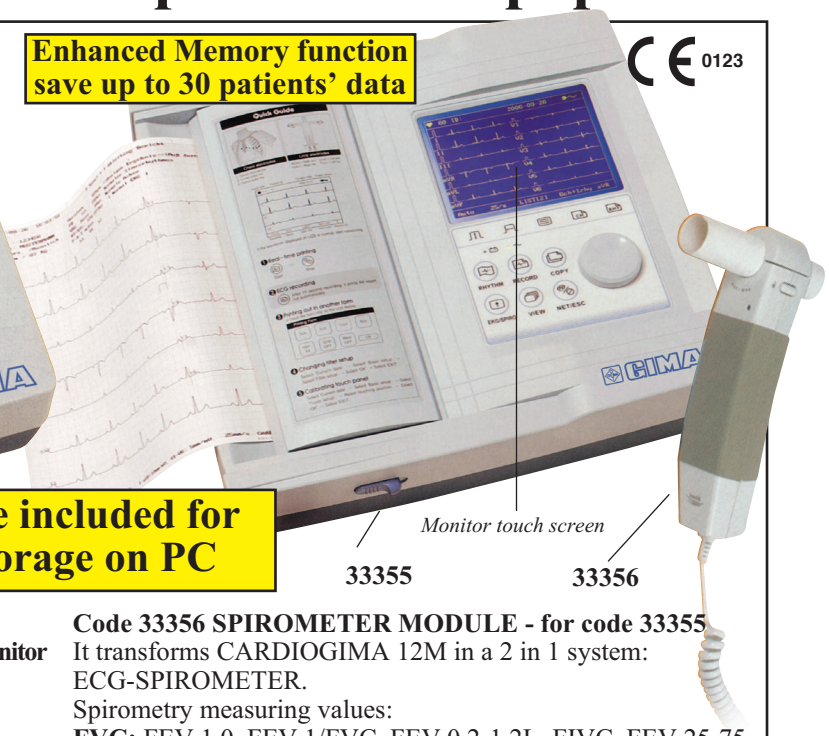
FDA Approved



33354

Enhanced Memory function save up to 30 patients' data

CE 0123



Monitor touch screen

33355

33356

Software included for data storage on PC

Code 33354 CARDIOGIMA 12 ECG - 3-6-12 channel
Code 33355 CARDIOGIMA 12 M ECG - 3-6-12 channel with monitor
We propose two models of 12 channel resting ECG recorder which are the most economically priced without performance compromise, especially suitable for routine use in Private consultancies, Emergency Room or Hospitals. **The simultaneous record of 12 channels** has a high diagnostic value - all the 12 channels are illustrated at the same time.
Their design is maximized for the user's convenience (A4 size paper, one body type).
Main Features:
- 12 leads simultaneous l0-second resting ECG with interpretation in only 60 seconds (multilanguage, internal software+printing in English, Spanish, French, German, Russian, Italian, Chinese).
- Wide Paper Printing (A4 size thermal paper, fax paper is OK)
- Economically priced without performance compromise
- Combined output of all relevant curves, patient data, date, time and instrument settings
- Pacemaker and lead fault detect (only 33355)
- **Fax-PC Connections**

Connection to fax and PC (PC interface with RS 232 port Via LAN-software included) and submit already recorded ECG signal to other specialist for evaluation (only a modem is needed)
- **ECG filing system "ECG Plus"**

A fully configured PC-based filing system enables to record ECG signals, display them in real time, print and record them.
- **Rechargeable batteries available (optional)** with 1 hour capacity in normal use (about 100 ECG printouts)

Standard accessories
1 PC software (English/Italian)
1 LAN cable
1 Patient cable - 10 leads
4 ECG clip-on electrodes
6 Chest electrodes, suction for adult
1 ECG electrode cream (70 g)
1 Power cable
1 Recording paper rolls
1 Operation manual (English/Italian)

29519

GIMA code	Cardiogima 12 and 12M accessories
29534	Rechargeable battery - for 33354
33339	Rechargeable battery - for 33355
33358	Thermal paper A4 - for 33355
33359	ECG cablefor 33354-5
29519	Trolley for 33354-5

Other ECG accessories at pages 139

Code 33356 SPIROMETER MODULE - for code 33355
It transforms CARDIOGIMA 12M in a 2 in 1 system: ECG-SPIROMETER.
Spirometry measuring values:
FVC: FEV 1.0, FEV 1/FVC, FEV 0.2-1.2L, FIVC, FEV 25-75, FEV 75-85%, PEF, FEF 200-1200 ml, FEF 25%, FEF 50%, FEF 75%, FIF 50%, PIF, FET 100%, FIVC.
SVC: SVC, ERV, IRV, TV,EC, IC, BC
MVV: RR, TV, MVV
Presentation: flow volume loop, flow time plot, measurement values table. Complies with ATS standard.
Code 33362 DISPOSABLE MOUTHPIECES

Technical specifications 33354 - 33355

ECG Leads:	3-6-12 channel illustration of ECG signals in continuous recording or 10 sec. recording with interpretation.
Dimension:	296x305,5x92,5 mm Approx 3 kg
Recording channel:	3, 6, 12 channel and 1 channel (60 sec.)
Sensitivity:	2,5 (only 33355) 5, 10, 20, auto (I~aVF: 10, W1~V6: 5) mm/mV
Printing speed:	12,5; 25; 50 mm/s
Filters:	AC (50/60 Hz, -20 dB or better) Muscle (25~35 Hz, -3 dB or better) Low pass filter (off, 40 Hz, 100 Hz, 150 Hz)
Display:	2x16 character LCD display (code 33354) 320x240 character LCD display (3 leads trend) (code 33355)
LCD display:	Sensitivity, speed filter status, HR, Printing form, rythm lead
LED indicator:	signal quality, power source, battery
Keyboard:	Membrane keyboard, alphanumeric and symbol available
Patient data:	ID, name, age, sex, height, weight
Basic measurement:	Heart rate, PR, QRS, QT/QTc, P-R-T axis
Recorder:	Thermal print head, thermal paper roll Report papers: width: A4: 210 mm or 8.5", lenght A4: 3 00 mm or 11" Resolution: vertical: 8 dots/mm, horizontal: 16 dots/mm
Electrical:	Internal noise: 20µV (p-p) max Input circuit: floating input Isolated and defibrillation protected DC offset voltage: ≥ ± 500 mV Patient leakage current: < 10µA Frequency response 0,05~150 Hz
Power:	Power supply: AC or built-in battery (options) Power requirement: 100-240 Vac, 50/60 Hz, 1.0-0.5 A Power consumption: 60 W max
Battery capacity:	1 hour of normal use (approximately 100 automatic ECG printouts)
Communication:	PC Connection with RS-232 interface and LAN
Safety:	Class I, Type BF
Conformity:	CE, CSA

Made in Korea

PC-ECG with Interpretation Software and USB port

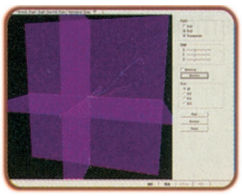
Code 33320 PC-ECG + ECG LAB SOFTWARE
Innovative PC-ECG device that can be connected to your PC via USB port. No power cable is required as it is powered through the USB PC cable. The unit is supplied with a 10 banana plug ECG cable (length 350 cm) and a powerful interpretation software (English, Italian, Spanish)
Main software features:
- 12 lead resting ECG with interpretation
- Vector cardiograph (VCG) with interpretation
- Electronic ruler to measure ECG waves
- 3-D VCG animation to diagnose myocardial infarction and difficult arrhythmia
- Database serial comparisons make it possible to study the changes of the desease of the same patient. Can print reports B/W or in colours
- Software can be done in any language - minimum order 3 pieces.

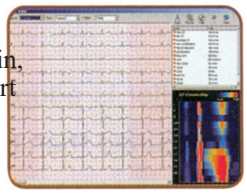
Code 33321 PC-ECG+CARDIOLOGY SOFTWARE
Same as code 33320 but with the following specialistic functions: Timed vector-cardiograph (TVCG), Frequency ECG (FCG, particular technique to detect ischemia and CAD), High Frequency ECG (HFECG), SAECG (VLP) analysis (Signal Averaged ECG or Ventricular Late Potentials, time domain and 3-D frequency domain), QTD analysis (QT dispersion) with chroma map, Heart Rate Variability (HRV) (time domain, 3-D frequency domain, Lorenz poincare plots), Pacemaker analysis, Heart rate Turbulence (HRT, or VE chaos).

Technical Specifications

Communication port:	USB
Size:	196x143x30 mm - 550 g
Power source:	5V DC (from PC USB port)
Patient insulation:	4000 V AC
Defibrillation protection:	built in box
PC minimum requirements:	Windows 2000 or XP
	CPU ≥ 1 GHz HD ≥ 40 G - RAM ≥ 256 M

FCG CAD gram to locate coronary artery disease and ischemia


3D-VCG tool to detect myocardia infarction


QT Dispersion QTD analysis with chroma map

Above 3 pictures refers to code 33321

Only 550 g

Macquarie Medical Systems Multichannel 12 lead ECG

3 channel printout from CT100

Code 33340 CT100 1-3 CHANNEL E.C.G. - 12 lead
Code 33343 CT200 MULTICHANNEL E.C.G. with PC link, software and interpretation.
Simple to use, have fully automated functions.
Simple one-key operation
One touch key will print a fully labelled 12-lead ECG trace
Light and compact: weighs only 1.5 kg. Size 210x165x45 mm
Built in rechargeable battery
With level of charge displayed on LCD, provides 6 hours continuous operation or over 40 full 12-lead ECG's
Fully formatted printout
Printout automatically labelled with time, date, size, speed, filter setting and an area to fill in patient information.
Two line display
The 2-row LCD displays format, lead, filter, speed and size selections.
Synchronised recording of ECG traces
The 12 standard leads are recorded simultaneously.

CT100/CT200 Technical Specifications

Leads	Standard 12 leads with rhythm and respiration
Memory	12 leads,10 seconds per each lead
Memory Function	Allows for delayed storage of recording for future download to PC
Manual Recording	One key operation up to 99 seconds printout for any lead
Printing System	Thermal array print head
Printing Paper	57mm wide thermal roll
Auto Labelling	Heart rate, time, date, leads, filter, calibration, patient details
Diagnostics	Yes, via PC Link software on PC or notebook
Universal Power Supply	Built in rechargeable battery. Recharge from AC 10V-12V, using AC adaptor 110V-240V 50/60 Hz
Battery	6 Volt lead acid battery
Battery Life	Up to 40 x 12 lead traces per full charge
Battery Charge Time	6 hours full charge
Display	LCD Character display on unit
Input Impedance	> 10 MΩ
Patient Leakage Current	< 10 µA
Time Constant	3.2 seconds
Recording Speed	12.5mm/s, 25mm/s and 50mm/s
Patient Cable	Defibrillation protected
Auto Gain Reduction	Yes
Sensitivity	5, 10 and 20 mm/mV
Filtering Levels	85Hz, 55Hz, 35Hz, and Off
Frequency Response	0.05 - 100 Hz
Design Standards	CE 0123, 93/42/EEC compliant, Class BF
Made in Australia	

Standard accessories

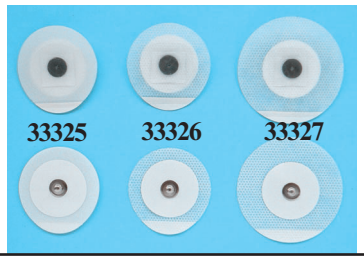
12 lead patient cable	2 paper rolls	AC/DC adaptor
6 chest limb electodes	Plastic stand	1 bottle ECG Gel
4 limb rubber straps	Carry bag	Manual (English - Italian)
Software and PC link cable (33343 only)		

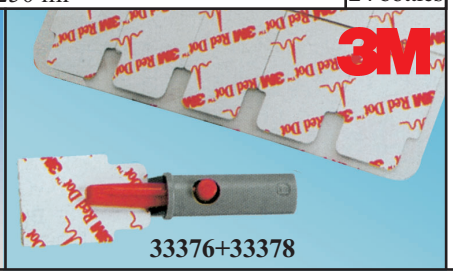
CT200 MULTI-CHANNEL 12 LEAD ECG with PC Link
It can be used as a stand alone unit or can be linked to a PC, to monitor patient signs, as well as printing via A4 printer, email or save data.

Code 33347 THERMAL PAPER for CT 100 / CT 200 - 10 rolls
Code 33360 ECG PATIENT CABLE - 12 lead - spare

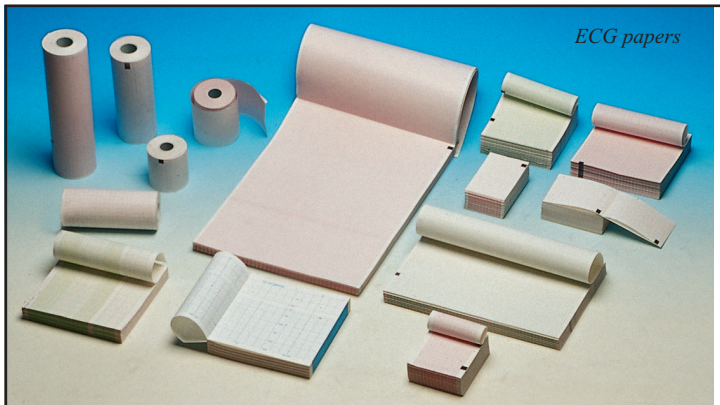
Accessories for most ECG: cream, electrodes and adaptors

GIMA code	Universal reusable ECG electrodes	Minimum order
33363	Set of 4 limb clamp electrodes (4 colours) pediatric	1 set
33364	Set of 4 limb clamp electrodes (4 colours) adult	1 set
33368	Set of 6 chest electrodes Ø 15 mm- silver coated	1 set
33365	Set of 6 chest electrodes Ø 24 mm- silver coated	1 set
33369	Set of 6 chest electrodes Ø 30 mm- silver coated	1 set
33323	Set of 6 chest electr. Ultra Ø 24 mm - silver coated	1 set
33324	Set of 6 chest electr. Ultra Ø 30 mm - silver coated	1 set
	Universal disposable ECG electrodes and adapters	
33325	Disposable FOAM electrodes Ø 43-45 mm	1.250 pcs.
33326	Disposable TNT electrodes Ø 43-45 mm	1.250 pcs.
33327	Disposable TNT electrodes Ø 55 mm	1.200 pcs.
33367	Adaptors to connect ECG cable to code 33325/6/7	10 pcs.
33378	3M RED DOT™ 2330 - 3.2 x 2.2 cm single use electrode with adhesive gel	100 pcs.
33341	Disposable pre-gelled tab electrodes 34x22 mm	100 pcs.
33375	Adaptor for ECG cables (pin)	10 pcs.
33376	Adaptors for ECG cables with 4 mm banana plug To be used with GIMAPLAY and CARDIOGIMA ECG	10 pcs.
33342	Universal adapter with 4 mm socket for snap and alligator connection	10 pcs.
33371	ECG cream - 250 ml	24 bottles





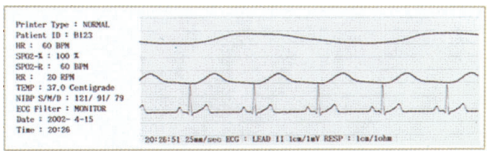
Gima ECG Thermal Papers for different ECG brands



GIMA code	ECG Manufacturer and model	Type	Width mm	Length	Sheet	Marker	Grid	Min. order
	BURDICK							
33800	Eclipse 400	pack	107	140	200	yes	pink	18
	BIONET							
33358	Cardiocare/Cardiotouch	roll	215	25	-	no	no	1
	CARDIOLINE							
33805	Delta 30/60	roll	183	30	-	no	red	5
33806	Delta 1 plus	pack	60	100	300	yes	red	15
33808	Delta 1 plus	roll	60	30		no	red	50
33807	Delta 3 plus	pack	112	100	300	yes	red	10
	ELETTRONICA TRENTINA							
33811	Autoruler 12/1, comp. 1x12	roll	50	30	-	yes	blue	50
33812	Start 100	roll	130	27	-	yes	blue	10
	ESAOTE BIOMEDICA							
33815	P 80	roll	90	28	-	no	red	25
33816	P 80	pack	90	70	400	yes	red	25
33861	P 80 Power	pack	210	280	215	yes	red	1
33818	P8000 Power	pack	80	70	300	yes	red	50
33819	Personal 120	pack	126	150	170	yes	black	20

GIMA code	ECG Manufacturer and model	Type	Width mm	Length	Sheet	Marker	Grid	Min. order
	FUKUDA ME - FUKUDA DENSHI							
33820	Cardisuny 501 D/S/SA	roll	50	30	-	no	red	50
33821	FPC 15, 2201, OP 119 TE	roll	63	30	-	no	red	50
33822	OP 111 TE	pack	50	75	400	yes	red	24
33823	OP 112 TE	pack	63	75	400	yes	red	30
	GIMA							
33338	Cardiogima 3M, Gimaplay 1	roll	58	25	-	no	red	10
33352	Cardiogima 6M, Kenz 302	roll	112	23	-	-	red	10
	HELLIGUE - MARQUETTE							
33835	Microsmart	pack	90	90	360	yes	pink	10
	HEWLETT PACKARD							
33840	Page Writer 100/200	pack	210	300	200	yes	red	1
33841	Monitor 40453 A	roll	50	30	-	no	red	50
	KENZ							
33805	301 - 303/601	roll	183	30	-	no	red	5
	MACQUARIE							
33347	CT 100/CT 200	roll	57	15	-	no		10
	MARQUETTE							
33845	MAC PC	roll	108	23	-	no	pink	30
33846	Case 10-12-15	pack	215	280	-	yes	red	1
	MORTARA							
33850	Eli 50	pack	50	70	200	yes	pink	50
33845	Eli 100	roll	108	23	-	no	pink	30
	NIHON KOHDEN							
33855	6101, 6151, 6501, 6511	pack	50	100	300	no	pink	10
	PHYSIO CONTROL							
33820	Life Pack 9-10	roll	50	30	-	no	red	5
	SCHILLER							
33860	AT 1	pack	90	90	390	yes	green	10
33861	AT 2	pack	210	280	215	yes	red	1
33862	AT 10	pack	210	140	235	yes	green	8
33818	AT 101	pack	80	70	300	yes	red	50
	SIEMENS							
33822	Cardiostat 1	pack	50	75	400	yes	red	24
33823	Cardiostat 11	pack	63	75	400	yes	red	30

Colour Multiparameter Monitors


Printer Type : NORMAL
Patient ID : B123
HR : 60 BPM
SPO2-% : 100 %
SPO2-R : 60 BPM
RR : 20 RPM
TEMP : 37.0 Centigrade
NIBP S/M/D : 121/ 91/ 79
ECG Filter : MONITOR
Date : 2002- 4-15
Time : 20:26

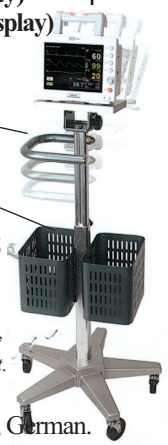
Printing sample

Code 33720 GIMA B3 MONITOR (5.7" LCD display)
Code 33721 GIMA B3 VET MONITOR - VERTERINARY
Code 33722 GIMA B3 PLUS MONITOR (8.4" TFT display)
Code 33723 GIMA B3 VET PLUS MONITOR (8.4" TFT display)

ECG+SpO_2+NIBP+RESP+TEMPERATURE

GIMA monitors are configured with
- Heart/pulse rate
- 3 lead ECG (5 lead optional)
- Non-invasive blood pressure (NIBP)
- Nellcor Pulse oximetry (SpO_2)
- Impedance respiration
- Temperature (sensor is optional)
- Battery and direct DC (18 VDC) input (not for recharge)
- Built-in printer (58 mm)
- 24 hours memory capacity
- Remote alarm function
- VGA output (33722, 33723)
- Internal software selectable in English, Spanish, French, Italian, German.
- User manual: English (on request: Italian, Spanish, French, German, Portuguese, Polish)

CE 0123 **33725**



Moving cart increase flexibility around the ward or department.

Direct vehicle cigar jack (12VDC) powered

Easy mounting with bed-rail hook

Direct connection of external monitor

33720

B3 Cost effective colour patient monitor

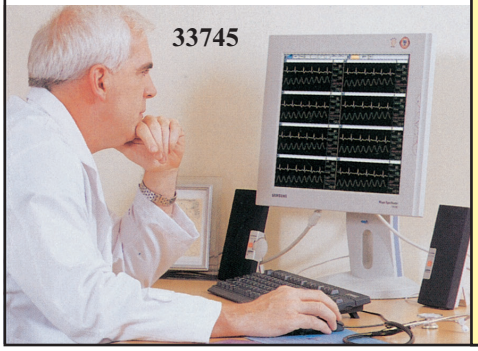
B3 Vet. Veterinary vital sign monitors

33721 **33723**

Code 30725 CART
Adjustable height, 2 basket included

Standard accessories	33720/2	33721/3
3 lead patient cable (ECG)	•	• vet
Disposable electrodes: 10 pcs	•	•
NIBP tubing - 3m	•	•
Reusable adult cuff 25-35 cm	•	
Reusable child cuff	•	
Set of 3 veterinary cuff		•
SpO_2 sensor - reusable	•	• vet
SpO_2 sensor extension cable 2 m	•	•
Thermal printer 58 mm	•	•
DC adaptor (18 VDC, 2.5A)	•	•
Battery	•	•
User manual: English, Italian	•	•

PATIENT CENTRAL SYSTEM (up to 16 monitors)
It allows the user to monitor and extract the exact status of several patients simultaneously at a place. Convenient bidirectional comunication allows you to admit new patient information, set alarms at either central station or patient monitor.
Code 33745 CENTRAL SYSTEM (PC, monitor and software)
Code 33746 CONNECTION KIT (HUB + LAN cables)
You need one for any monitor to be connected.



33745

Technical specifications

GENERAL
Display: 8.4" colour TFT (800x600) 33722-33723
5.7 LCD colour - 33720 - 33721
Dimensions/Weight: 238x250xh 163 mm/3.5 kg
Indicators: Up to 3 waves (ECG, SpO_2, Respiration)
categorized alarms (3 priority levels),
visual alarm lamp handle,
heart rate tone,
battery status, external power led
Thermal printer: 25, 50 mm/sec (paper width 58 mm)
Battery: internal battery: sealed lead-acid
operating time: 2.5 hours (fully charged)
Interfaces: LAN digital output for transferring date
VGA output (33722, 33723)
DC input connector: 11 to 16 VDC, 3A max
Operating voltage: 100-240 V, 50-60 Hz

ECG

Leads:	3 leads, 5 leads(OPTION)
Heart Rate Range:	30 to 300 bpm
Heart Rate Accuracy:	± 3 bpm, (±5 bpm 33720)
Bandwidth:	0.5 Hz to 40Hz
Display Sweep Speeds:	25mm/sec
ECG Size (Sensitivity):	0.5, 1, 2, 4 mV/cm
Pacemaker Detection Mode:	Indicator on waveform display
CMRR:	>90 dB at 50 or 60Hz
Input Dynamic Range:	± 5 mVAC, ± 300 mVDC
Defibrillator Discharge:	<5 s
Defib. artifact recovery time:	<8 s
Arrhythmia analysis:	VTAC/VFIB
(excluding 33721)	VTAC, ASYSTOLIC

Lead-Off Detection with display indicator

SpO_2

% Saturation Range:	0% to 100%
Pulse Rate Range:	30 to 300 bpm
SpO2 Accuracy:	70% to 100% ±2 digits
Pulse Rate Accuracy:	± 3 bpm

NIBP

Technique:	Oscillometric
Measurement Modes:	Manual: Single measurement Auto: Automatic intervals of 1, 2, 3, 4, 5, 10, 15, 20, 30 min. and 1, 2, 4, 8 hr.
Cuff pressure display:	30 to 300 mmHg
B.P. measurement range:	Systolic: 60 to 250 mmHg Mean Arterial Pressure: 45 to 235 mmHg Diastolic:40 to 220 mmHg
Pulse Rate Range:	40 to 200 bpm

Adjustable Cuff Inflation Pressure

Respirations

Range:	50 to 120 breaths/min
Accuracy:	±3 breaths/min
Display Sweep Speeds:	25 mm/sec

Temperature Unit

Range:	15° to 45°C (59°F to 113°F)
Accuracy:	25° to 45°C ± 0.1°C, 15° to 24°C ± 0.2°C
Compatible with:	YSI Series 400 Temperature Probes

B5 Multiparameter Monitor with extendible parameters

Code 33780 GIMA B5 MONITOR - 10.4" TFT display
Code 33781 GIMA B5 VET MONITOR - 10.4" TFT display

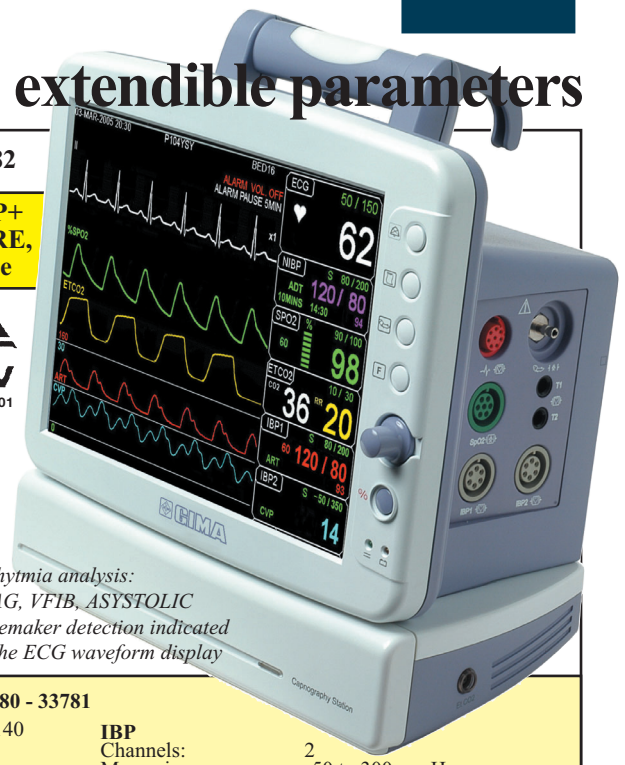
33780+33782

ECG+SpO$_2$+NIBP+RESP+ optional 2TEMPERATURE, 2 IBP and EtCO$_2$ module

- 10.4" colour TFT screen with 5 wave forms
- High resolution 800x600
- VGA output connecting to an external monitor
- 24 full hours trend and alarm info stored
- Usable for adult to neonatal patient
- LAN or wireless LAN
- Direct DC input during vehicle transport
- Selectable software language (English, French, Spanish, Italian, German).

Standard accessories included as B3 monitor - see page 140

CE 0123 TÜV ISO 9001



Arrhytmia analysis:
VTAG, VFIB, ASYSTOLIC
Pacemaker detection indicated on the ECG waveform display

GIMA code	Temperature, EtCO$_2$ and IBP kit
33740	Temperature sensor exacon 2.75 m - skin type
33741	Temperature rectal sensor
33782	EtCO$_2$ human module (including code 33785)
33783	EtCO$_2$ vet module (including code 33784)
33784	EtCO$_2$ disposable kit for intubated patient (adult/paediatric/neonatal)
33785	EtCO$_2$ disposable kit for non intubated patient (adult/paediatric)
33787	IBP Kit - disposable - single
33788	IBP Kit - reusable (not autoclavable) - single
33789	IBP Kit - reusable (not autoclavable) - double

Technical specifications for monitor 33780 - 33781

GENERAL
Dimensions/Weight: 270x185xh 250 mm/4 kg
Indicators: Up to 5 waves (ECG, SpO$_2$, RR, or EtCO$_2$ IBPx2)
categorized alarms (3 priority levels), visual alarm lamp handle, heart rate, SpO$_2$ tone
battery status, external power LED
Thermal printer: 25, 50 mm/sec (paper width 58 mm)
Battery: Li-ion (2.5 hours operating time)
Interfaces: LAN digital output for transferring date
VGA output
DC input connector: 18 VDC, 2.5A max
Operating voltage: 100-240 V, 50-60 Hz

SpO$_2$
% Saturation Range: 0% to 100%
Pulse Rate Range: 0 to 254 bpm
SpO2 Accuracy: 70% to 100% ±2 digits
Pulse Rate Accuracy: ± 2 bpm

ECG Same specification as B3 Plus page 140

NIBP
Technique: Oscillometric
Measurement Modes: Manual: Single measurement
Auto: Automatic intervals of 1, 2, 3, 4, 5, 10, 15, 20, 30 min. and 1, 2, 4, 8 hr.
Cuff pressure display: 0 to 300 mmHg
B.P. measurement range: Systolic: 40 to 270 mmHg
Mean: 20 to 230 mmHg
Diastolic:10 to 210 mmHg
Adjustable Cuff Inflation Pressure

Respirations
Range: 5 to 120 breaths/min
Accuracy: ±3 breaths/min

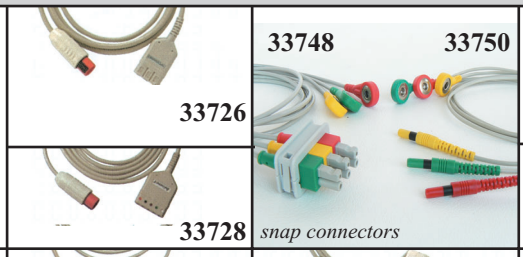
Temperature Unit
Range: 15° to 45°C (59°F to 113°F)
Accuracy: ± 0.1°C
Compatible with: YSI Series 400 Temperature Probes

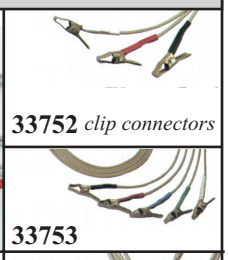
IBP
Channels: 2
Measuring range: -50 to 300 mmHg
Measuring accuracy: ± 1 mmHg ± 1 digit (<100 mmHg)
± 1 % ± 1 digit (≥100 mmHg)
Pulse rate counting range: 0 to 300 beats/min
Zero balancing: Yes
Range: ± 200 mmHg
Accuracy: ± 1 mmHg
Drift: ± 1 mmHg over 24 hours
Transducer sensitivity: 5µV/V mmHg

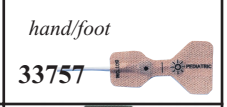
EtCO$_2$
Method: Side Stream
Measurement mode: Microstream
Measurement range: 0~99 mmHg
Respiration range: 0~150 bpm
Accuracy: ± 2 mmHg,0~40 mmHg
± 5%, 41~76 mmHg
± 10%, 77~99 mmHg
Resolution: 1 mmHg
Apnea alarm: YES

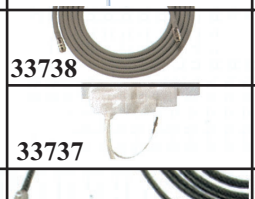
ECG, SpO$_2$, NIBP, Temperature accessories for Monitors

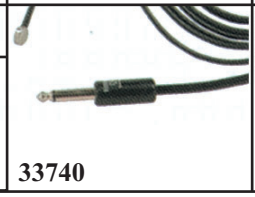
Code		Accessories for codes 33720, 33721, 33722, 33723, 33724, 33780, 33781
33711	ECG	3-lead patient cable (cable+snap connectors 33748)
33712		5-lead patient cable (cable+snap connectors 33749)
33726		3-lead patient cable (cable+snap connectors 33750)
33728		5-lead patient cable (cable+snap connectors 33751)
33727		3-lead veterinary cable (cable+3 clip connectors)
33748		3-lead snap connectors for 33726 - spare - new
33749		5-lead snap connectors for 33728 - spare - new
33750		3-lead snap type connectors for 33726 - spare - old
33751		5-lead snap type connectors for 33728 - spare - old
33752		Vet 3-lead clip type connectors for 33726-7 - spare
33753		Vet 5-lead clip type connectors for 33728 - spare
33733	SPO$_2$	Extension cable*, 2 m (7 pin small SpO$_2$ connector) up to 2005
33734		Extension cable*, 2 m (6 pin SpO$_2$ connector) sold in 2005/6/7
33716		Extension cable*, 2 m (7 pin big SpO$_2$ connector) since 2007
33730		Adult reusable finger probe Nellcor comp.
33731		Pediatric reusable finger probe - Nellcor comp.
33732		Vet reusable probe - clip
33755		Disposable infant probe - under 3 kg - Nellcor comp.
33756		Disposable child probe - 3-15 kg - Nellcor comp.
33757		Disposable pediatric probe - 15-45 kg - Nellcor comp.
33738	NIBP	Extension cable, 3 m (necessary for all cuffs)
33735		Adult cuff - 49x15 cm - need ext. cable 33738
33736		Child cuff - 35x11 cm - need ext. cable 33738
33737		Kit of 3 neonatal cuffs - needs cable 33738
32810		Mini cuff 16x5 cm - needs 33738+33739
32811		Mini cuff 23x5 cm - needs 33738+33739
33739		Metal connector (necessary for mini cuff)
33740	Temp	Temperature sensor exacon 2.75 m, skin type
33741		Temperature rectal sensor
33743	Paper	Thermal paper 57.5 mm, 38 Ø
33742	Battery	Battery - up to january 2006 - B3, B3 Plus
33715		Battery - Since january 2006 - B3, B3 Plus
33717		New battery - Since sept. 2007 - B3 Plus, B5
33747	Adapter	AC adapter
33744	Jack	Direct vehicle cigar jack (12 V dc)











* Necessary for all probes. Please select correct one